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MODEL RAILWAY

Magazine

APRIL 1986.

ISSUE 137. Vol.12. No.8

IN THIS ISSUE:

IN COLOUR

V.R. B Class
Diesel Electric

B Class CONVERSION

HILLSIDE
An exersize in HOn2½

ROYAL'S STORE

KOORAWATHA
Prototype Trackplan

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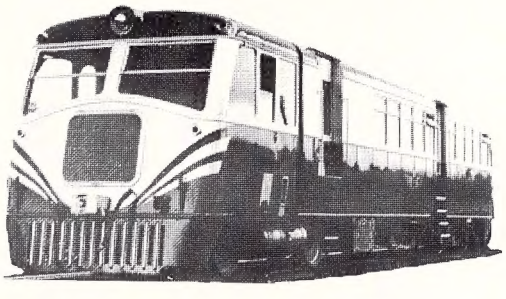

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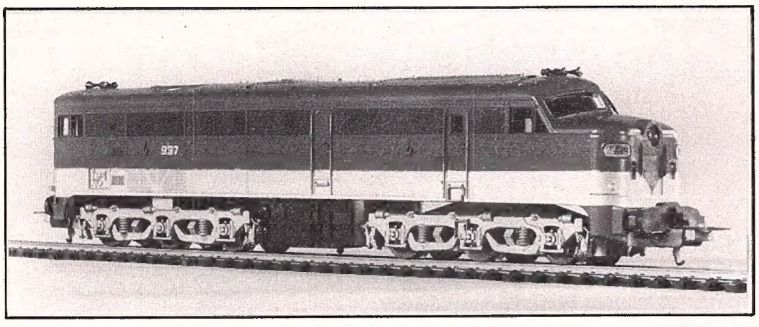
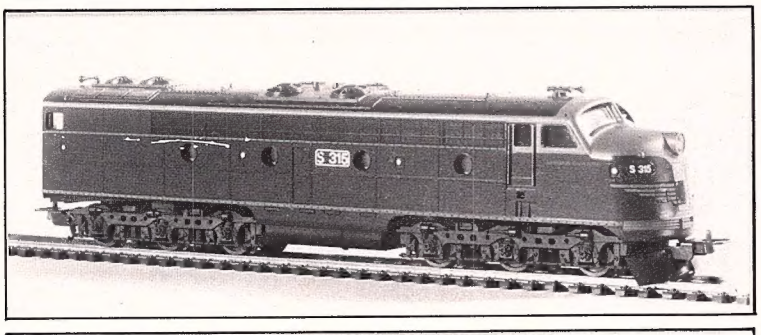
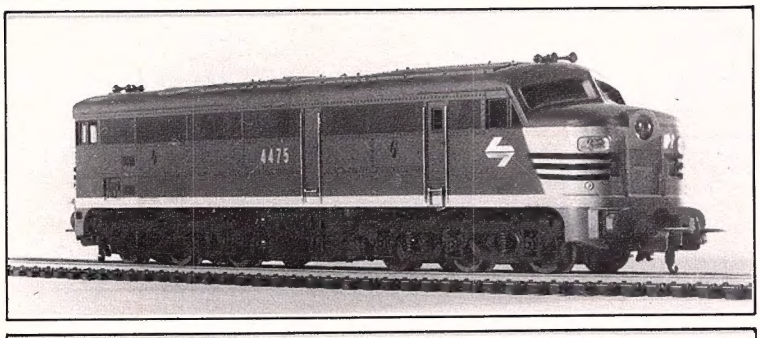


8041 The 930 class diesels were introduced into the South Australian railway system in december 1955. Manufactured by A. Goodwin LTD of Sydney under licence from ALCO of U.S. These 1,600 horsepower units are still in active use. They have been very useful on the Adelaide to Melbourne "Overland Express".
RE NUMBERED "942"

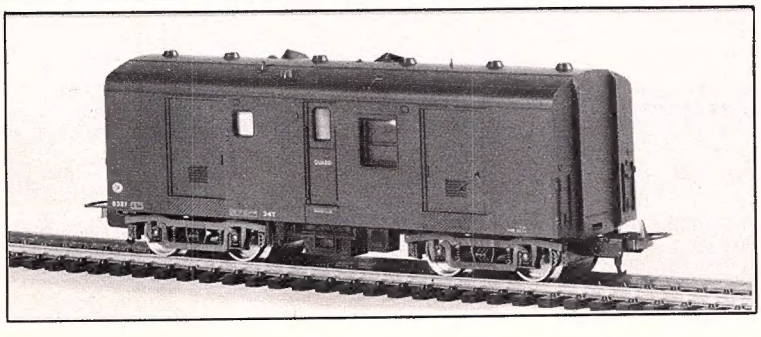
8042 These 1,800 horsepower diesels were selected by the New South Wales railway to dieselise their system in 1957. The 44 class is a universal locomotive having the crack "Southern Aurora" and "Indian Pacific" Express at one end of the scale and pick up goods at the other.
RE NUMBERED "4461"



8043 These "S" class GM powered locomotives are used throughout the State of Victoria. Power is by sixteen cylinder two stroke diesels developing 1,800 horsepower and gross weight is 114 tonnes.
RE NUMBERED "302 EDWARD HENTY"



8049 44 class series Mk II diesel locomotive. Reverse livery.
RE NUMBERED "4479"



9342 Australian brake van, class 8300
RE NUMBERED "8340"

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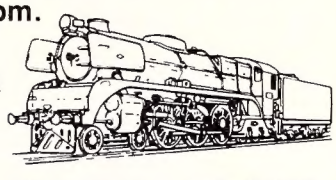

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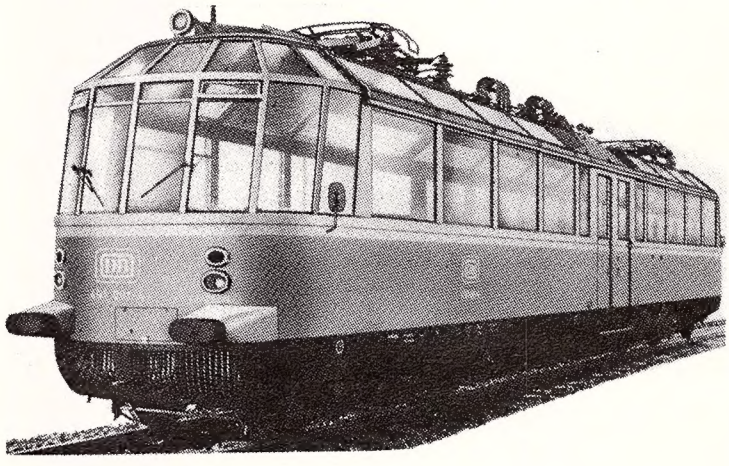

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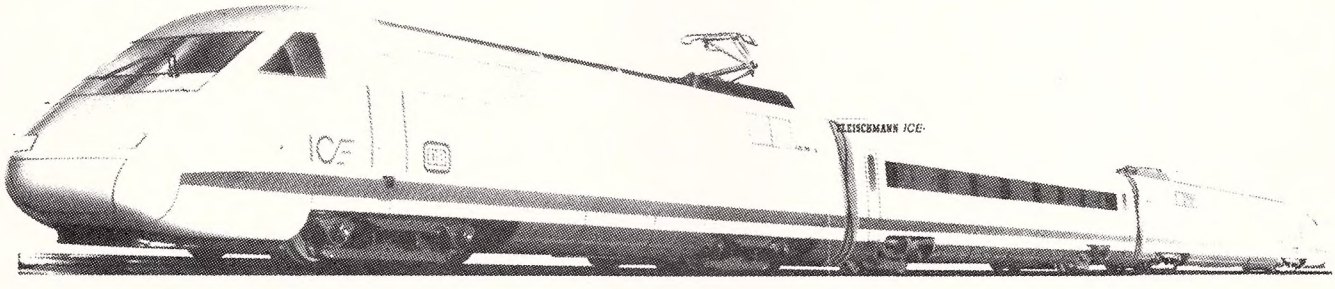

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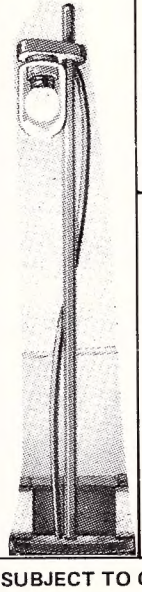

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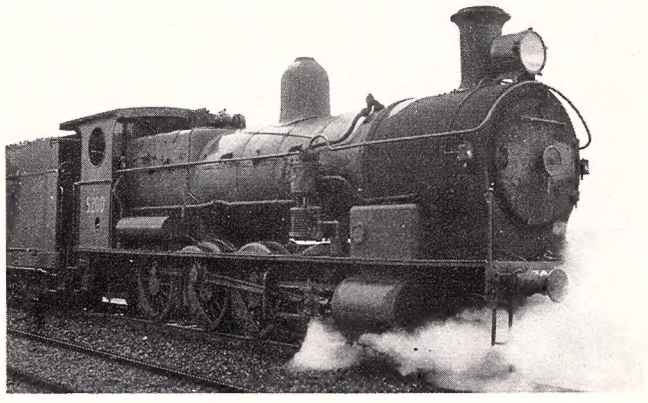

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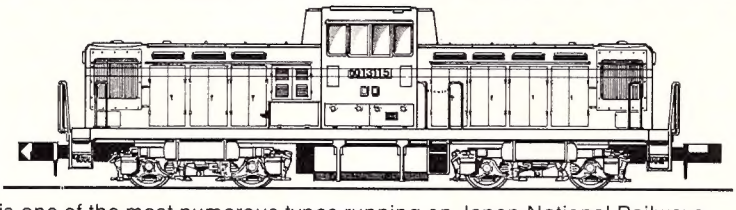

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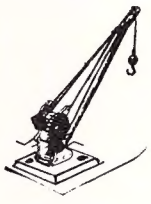

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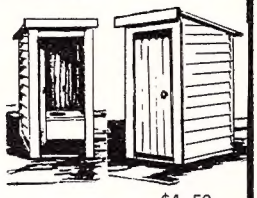

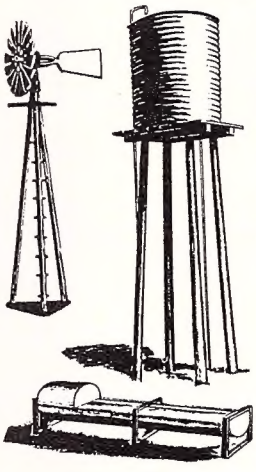

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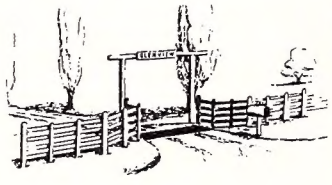

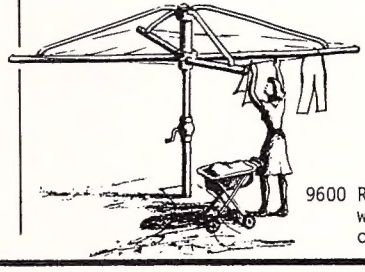

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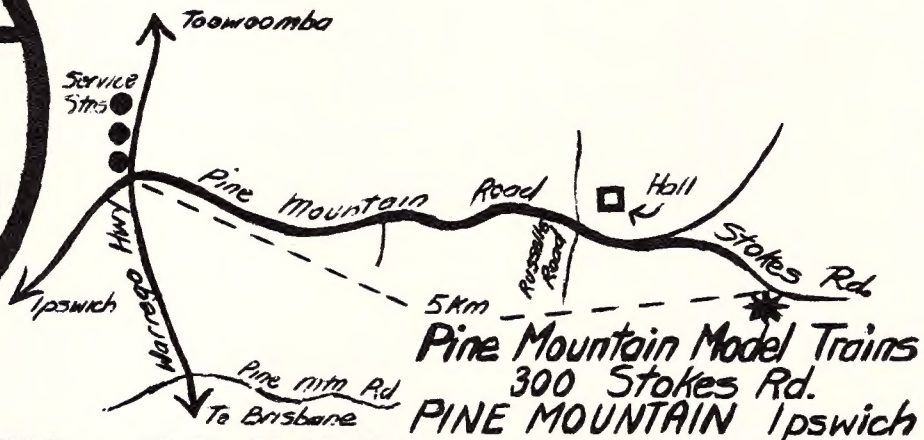

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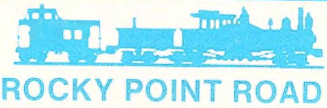

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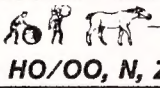

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EXHIBITIONS

GRAFTON — N.S.W. April 12, 13 1986 at South Grafton High School Hall, Tyson St., South Grafton. Open 9am-6pm (Sat), 9am-4pm (Sun). Organised by the Challenge Foundation for Caringa Enterprises.

MT. GAMBIER — South Australia. April 25, 26, 27 1986 at City Hall, Commercial Street East, Mt. Gambier. Open 12 midday — 8pm (Fri), 9am-8pm (Sat), 10am-4pm (Sun). Admission $2/50c, Fam. $4. Organised by the Blue Lake Model Railway Club.

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CROYDON — Victoria. May 17, 18 1986 at the Croydon High School Hall, Croydon. Open 10am-9pm (Sat), 10am-6pm (Sun). Admission $2/$1, Fam. $5. Organised by the Croydon Model Railway Club. Details (03) 729 4209.

BOX HILL — Victoria June 7, 8, 9 1986 at Box Hill High School. Open 9am-10pm (Sat), 10am-10pm (Sun), 10am-5pm (Mon). Admission $2.50/$1. Organised by the Waverley Model Railway Club.

WEST RYDE — N.S.W. June 7, 8 and 9 1986 at Meadowbank TAFE College, Rhodes Street, West Ryde (behind Water Pumping Station). Open 10am-6pm (Sat, Sun), 10am-5pm (Mon). Admission $2/$1, Family $5. Organised by the Epping Model Railway Club (SCMRA). Details T.Moore, Ph. (02) 86 3522.

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BROADMEADOW — N.S.W. August 8, 9 1986. Details PO Box 317, Cardiff, 2285. Organised by the Combined Hunter Region Rail Modellers Association.

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AMRM

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New South Wales

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COMMENT

Expectations and Reality

Over the years, at club meetings and in the model press I have heard and read of the disappointment of modellers with our local hobbyshops. Claims that the stock levels are low, stock range insufficient and similar derogative comments abound. I must admit that I once shared this viewpoint, but a holiday to see my daughter soon changed my mind.

I have been modelling in one form or other for over thirty years, commencing in British and gradually converting to Australia prototype, much to the pleasure of my associates. During this period I have purchased models as well as obtaining components to scratchbuild as much as I can. Not be too flushed with funds I must look for as many bargains as possible. To this end I have always looked to the UK press and model shops to supply that hard to get item or for that matter the isolated model, which arrived much cheaper than that locally.

Constantly reading adverts and purchasing catalogues I gained an impression of the British hobby shops that made our Australian counterparts pale into significance.

The chance of visiting England to meet my grandson would give me the opportunity of visiting all those hobbyshops and obtaining some cheap models. After all, England is a small place, and travel is no problem to an Australian for we do not hesitate doing 40kms between shops in Sydney.

Arrival at Heathrow saw the purchase of the latest magazines and a study of the ads. My first disappointment was that England was not as small as I envisaged and travel was expensive. When I got to the shops I found that the ones with the largest ads did not necessarily have a large shop or carry the stock advertised. In many instances discounting has taken effect and the bread and butter lines were missing and as such so were the many modelling items I required. The shopkeepers were ever so willing to buy the item in for me, but when travelling that is not possible.

My other disappointment was that what European produced items I could get ended up the same price as if purchased in Australia when the dollar/pound conversion, freight rates (excess baggage) and customs duty is considered.

Not only was I disappointed with the shops but also the many attractions I expected to see. But it was winter and they were closed. Next time I travel, I will look toward the summer period when the railway activities are open, have a realistic attitude towards the stock available in Australia and hobby shops visited and buy my rail pass in Australia where it is cheaper.

Also I am no longer disappointed with the local hobby shops. Considering the varied interest of the local hobbyist we do not do too bad, and after all we are only a colony, are'nt we.

Max Burke.

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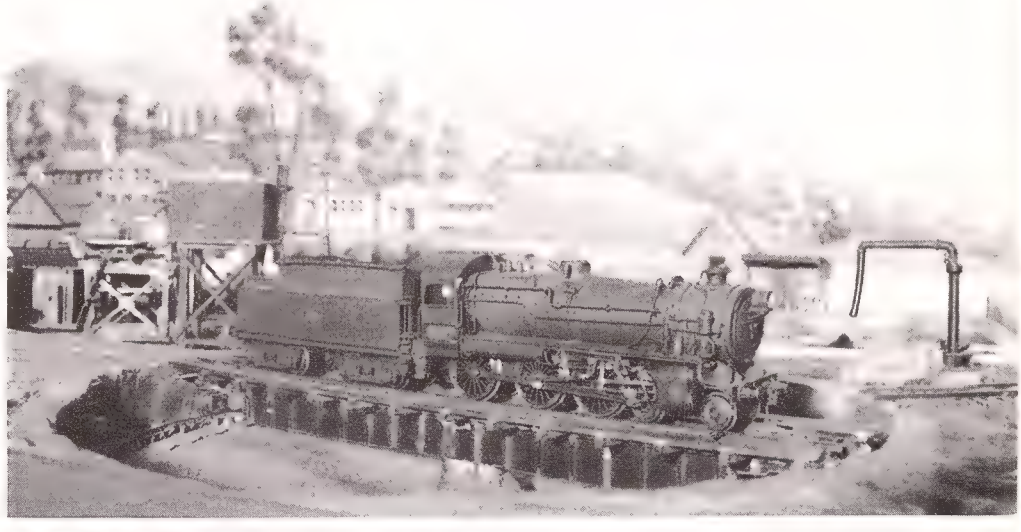
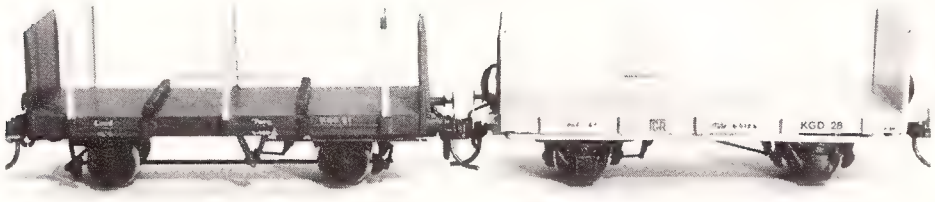


ON THE COVER

B83 in teacup tangerine and silver livery joins with S313 in heading a lengthy grain train at Lal Lal in January 1984. The photographer was Bob Richardson. The B class, which feature in this issue, were given this unusual livery to match the N car sets — which was an overall plan by VicRail to improve their passenger services. The nicname of 'teacup' was gained from the expanded V on the nose of the loco. 3647 is a FSM C36 kit built up with a larger motor and strengthed valve gear by Eric Moss. The model is photographed on the turntable on Eric's HO scale NSWR layout.

PAGE TWELVE

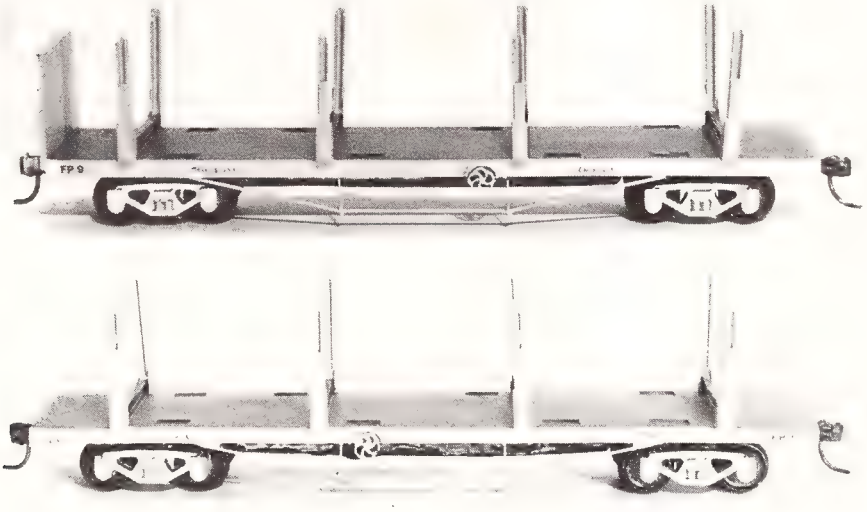


KGD 28 and KGD 31 represent Grover bogie bulkhead flats which were built in prolific (for Tasmania) numbers and ran till recently. Both wagons were built on available Triang-Hornby frames extended to scale length and rewheeled. Bodies are styrene. KGD 31 is a wagon modified for reinforcing mesh traffic and was an early model, hence the incorrect brake gear.

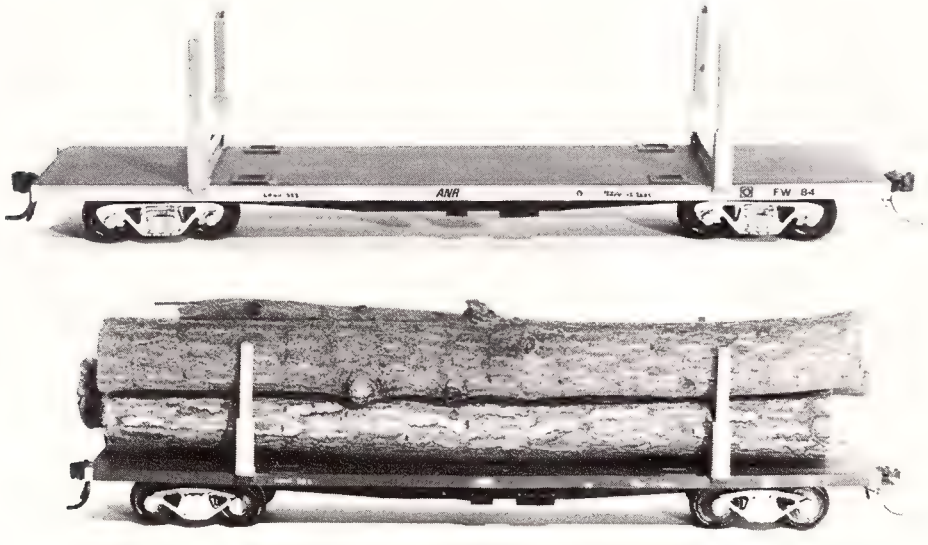
This issue of **PAGE TWELVE** features models of Tasmanian rollingstock built by Michael Dix. The models are built to 4mm scale and run on 16.5mm gauge track, a scale:gauge ratio which is used mainly to suit the availability of materials. A number of wagons acquired before changing to modelling the TGR have been rebuilt to suit various prototypes, although nearly all new stock is now scratch built.

Photographs by Bob Gallagher.

FE 88 was my first attempt at a log wagon and although capturing the look of the prototype was awkward to build and I have yet to build any more. The body is styrene with stanchions and bolsters of Plastruct shapes. Bogies are Roundhouse MDC roller bearing types fitted with 10.5mm wheels, giving the correct dimensions in 4mm scale.



FP 9 and FP 6 are models of pine log wagons featured in a past issue of AMRM. They are built on modified Lima frames with Lima bogies fitted with Kadee wheels, an odd combination used before I realised that building from scratch was easier than converting other models. Log cradles are made of Plastruct shapes, the remainder of the wagon bodies being styrene.



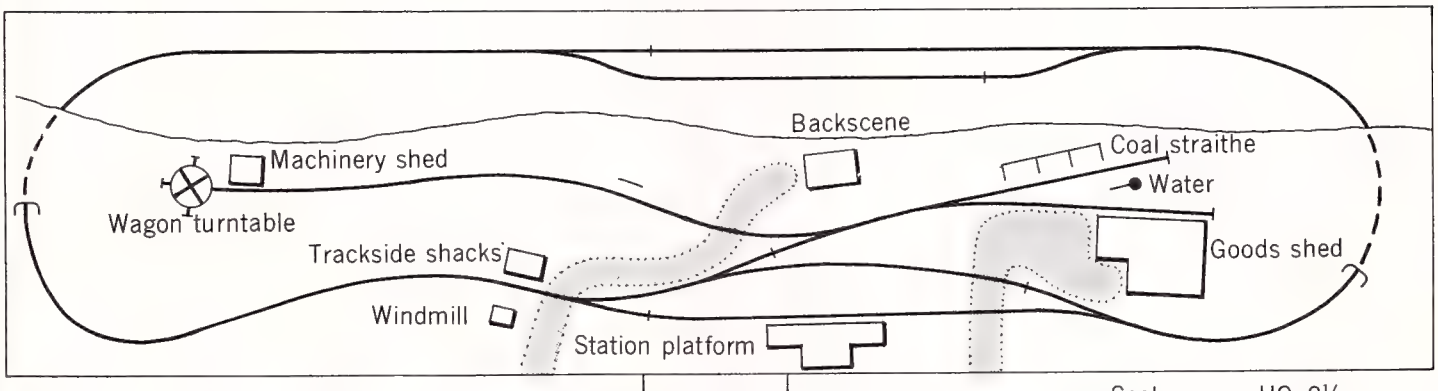
These FW class air-braked log wagons were scratchbuilt using styrene shapes, Roundhouse MDC bogies and Kadee wheels. FW 1 is fitted with plain journal bogies as originally fitted to early members of the class. The logs were from a She-oak tree from the garden.

HILLSIDE

A Minimum Space Exercise in HOn2½

by Scott MacLean

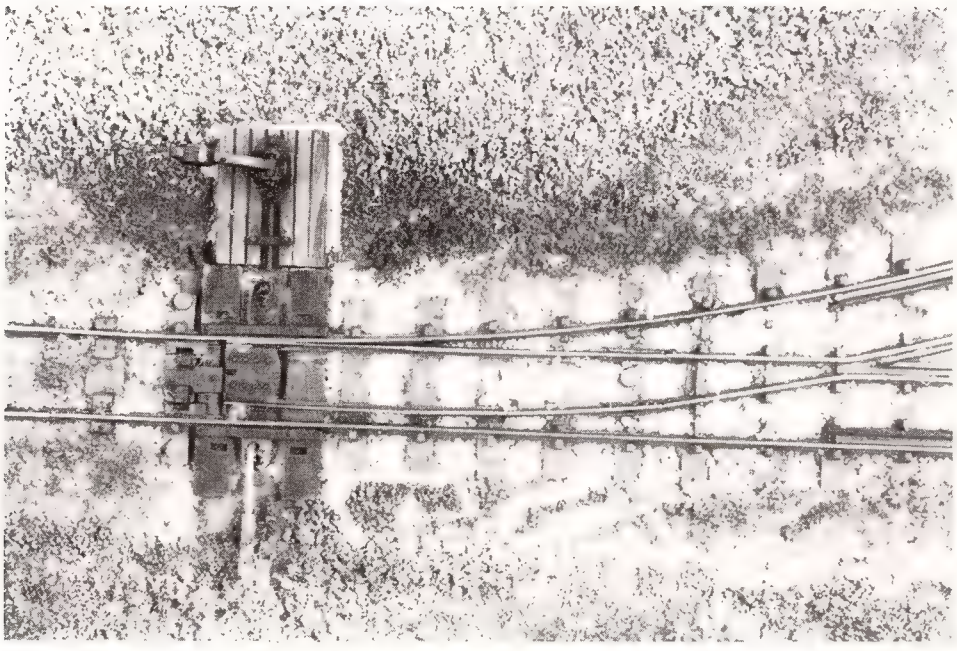
Photographs by the author and Bob Gallagher.



Scale	HOn2½
Length	1.75 metres
Width	.45 metres

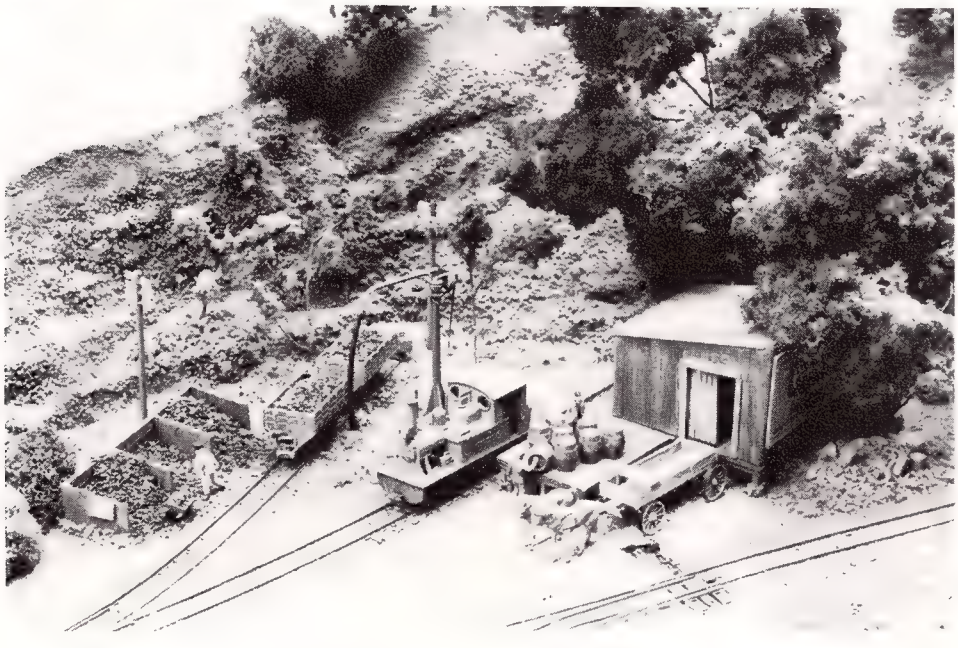
Hillside — looking eastward.

Hillside — looking westward.



Wire-tube-control can be inconspicuous.

Bookshelf sans layout.



The coaling stage and goods shed are surrounded by low density shrubbery.

Introduction

This, my first layout, was designed with three main purposes in mind:

- to get me out of my 20 year armchair modelling phase;
- to give me some fun and enjoyment; and
- to establish whether I could actually build a more-or-less complete model railway.

The model described in this article was the result. Whilst there was considerable attention paid to achieving a realistic appearance, the emphasis has been on creating something which works and which has been fun to build and operate.

I set about the task by establishing some clear objectives at the outset:

- the project had to have my wife's approval, in principle at least;
- partly in consequence of this, it had to be relatively inexpensive (less than $500 in total);
- it had to take up as little room as possible;
- it had to provide some challenge in terms of scratch or kit-building, thereby helping me improve my skills;
- it had to approach at least a modicum of realism;
- it had to offer some operational interest; and
- upon completion, it had to be something which I would be proud to show my non-modeller friends.

Some 150 hours and $300-400 later, I think that many, if not all, of these objectives have been achieved.

Layout Design

Whilst an inveterate reader of the British magazine 'Railway Modeller' and, consequently, familiar with the popularity of the fiddle yard to rural terminus concept, I felt that this would be a little too limiting without the option of continuous running. Reading that same magazine, however, made me equally familiar with the scope and flexibility offered by the OO-9 (HOn2½, HOe, etc.) scale/gauge combination. I therefore decided to construct a freelance OO-9 layout which would allow both tailchasing and switching operation, thus tackling many of my objectives in one hit.

My wife had made a suggestion which was instrumental in my reaching this decision. Some years before, I had laboriously constructed a 1.8m x 1.8m bookshelf. Her idea was to cut this in half horizontally, thus creating both something to hold up the layout and store books and modelling materials, as well as a completely separate 1.8m x 0.9m high bookshelf for use elsewhere. With much trepidation, I administered the circular saw and, somewhat to my surprise, the idea worked!

The task now was to design a trackplan which would satisfy the constraints of the bookshelf. This, I decided, would limit the baseboard size to 1.8m long by 38cm wide.

Brown paper was cut to size and alternative trackplans were sketched out at full scale, until I was satisfied with the result. This was, in fact, an enormously enjoyable part of the design process, because a large amount of dreaming was possible. I consulted with one or two friends whom I knew to be fellow 'closet modellers' and who were able to offer some useful suggestions. I also benefited greatly from extensive reading in the model railway literature.

The final design (see track plan) involves a continuous run, half of which is hidden behind a backscene, where a passing loop is also concealed. The visible portion of the layout comprises a simple passing loop halt, with a couple of sidings and a spur leading to what was in-

The Author

Scott MacLean is 35, married, with two kids and a rabbit. A management consultant by day, he looks forward to the time when the only work he brings home will be 'that new kit at the model shop', rather than a briefcase full of papers!

tended to be a Campbell's Scale Models Idaho Springs Mine, but which has turned into a disused rock quarry because of lack of space for the Campbell's structure. At either end of the baseboard, the main line enters tunnels to allow passage to the rear hidden section of the layout. The minimum curve radius (at each end) is, of course, only 300mm or a little more, but most of the OO-9 stock I have negotiates this successfully.

In retrospect, I think I got the headshunt arrangement the wrong way around for the two sidings, but it doesn't really matter. It works!

Baseboard

The baseboard was framed up using 75mm x 25mm dressed pine with cross-supports at about 38cm centres. The joints were nailed and glued with Selley's Aquadhere. The baseboard itself was a sheet of 12mm particle board with the section supporting the uphill quarry spur cut out and raised on scrap pieces of wood nailed and glued to the main board.

The particle board was, in turn, nailed and glued to the framework. The whole was then mounted onto the bookshelf, with the framework fitting into matching slots cut into the vertical sections of the bookshelf.

This arrangement has proven to provide a rock-steady, if a little noisy, baseboard structure. The noise could probably have been reduced if I had put something between the track and the baseboard (see below).

Trackwork

All track and turnouts are Peco OO-9 'crazy' track. I had decided that I did not want to make my own track yet, and that the Peco product would look reasonable if well-ballasted and weathered. This has proven to be the case.

The track was pinned directly to the baseboard using Peco track pins, with a pilot hole first being drilled into sleeper and baseboard. Joints between rails were made using Peco N-scale fishplates, with the nylon equivalent being used where electrical gaps were required (see later).

Ballast was made by sifting washed river sand (from the kid's sandpit) through a fine meshed tea strainer. This was poured, brushed and generally cajoled into the right places before being sprayed gently with water. Watered-down Aquadhere (with a little detergent mixed in) was then dripped on in copious quantities and the lot left to set for a couple of days.

This process did, however, have two disadvantages. Firstly, the combination of sand and particle board has proven to be a little noisy. Secondly, the process of thoroughly wetting the ballast and baseboard caused the baseboard to swell slightly, in turn causing the track to go slightly out of gauge. Fortunately, one of the features of OO-9 appears to be more than generous clearances, so that running has been little affected. Indeed, perhaps I have actually managed to follow the narrow gauge prototype in this respect, with locos and rollingstock visibly lurching through the turnouts and occasionally derailing.

The sides of the rail were painted a rusty colour and the sleepers and ballast also weathered appropriately. The resultant appearance, notwithstanding the use of the vastly overscale Peco OO-9 rail is, I think, most realistic.

Electrical Control

Electrical control is by means of a single H and M Clipper unit. The Peco OO-9 turnouts are of the live frog variety, so judicious selection of rail gaps was required to ensure proper operation. I was helped considerably here by Linn Wescott's book *How to Wire your Model Railroad*. It's old but it's good.

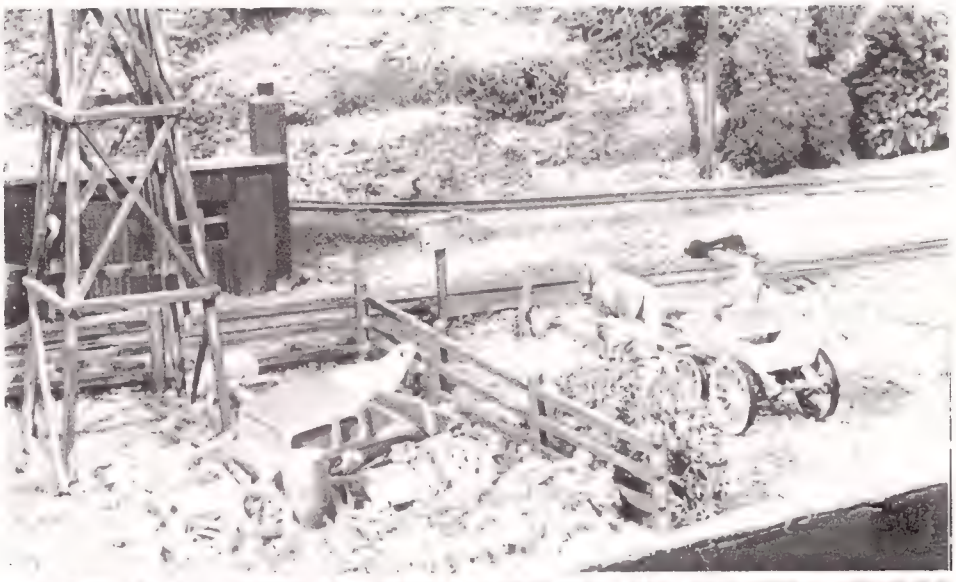
The relatively simple gap pattern selected is shown in the trackplan and allows me considerable flexibility in holding trains in passing loops, sections or sidings, while operation proceeds with another loco elsewhere. In addition, by selecting the turnout direction appropriately, I can have another train stop in either one of the behind-the-scenes passing loops automatically, without my having to peer over the top to watch. This train can then be held while another passes it by. All this adds considerably to the operational potential of the layout.

Turnouts are controlled by the wire-in-tube method. Manual control seemed to me to be a little crass, but equally, electrical turnout motors seemed to be an overkill for a layout this size. The compromise selected was the result.

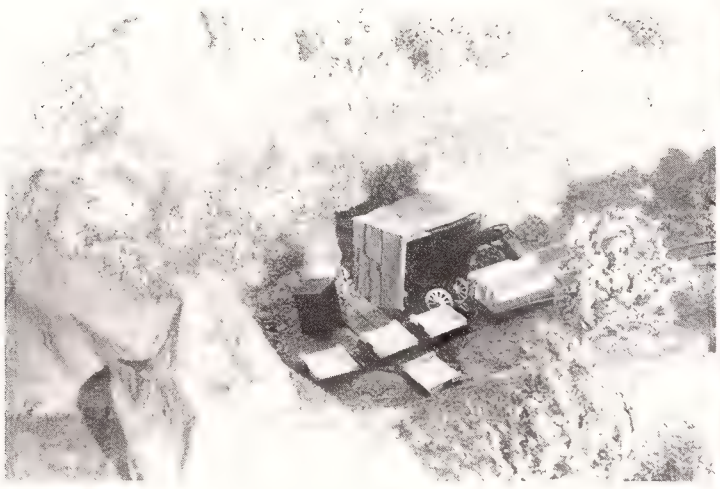
The wire for each turnout is pushed or pulled with a DPDT (double pole, double throw) switch, using a method described in the May 1982 issue of the Railroad Model Craftsman. It works reasonably well, but it is critical to get the tension in the 'V' correct.

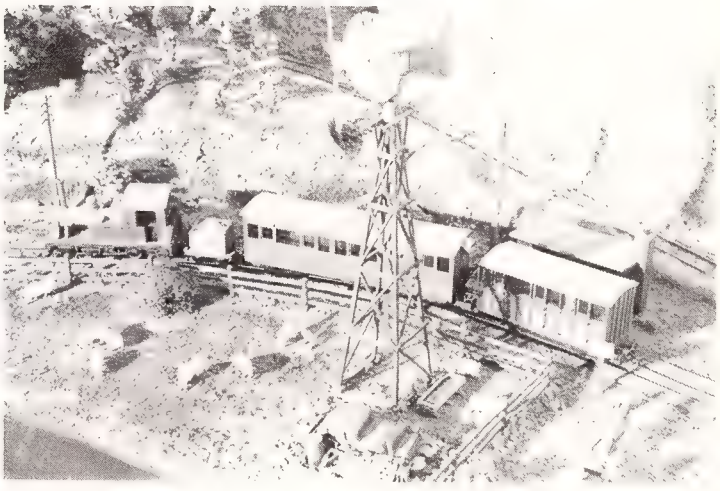
I find that the short wheelbases, and consequent limited current pickup points of the OO-9 locos, require all the help they can get to maintain electrical continuity. I use Wahl Clipper oil, as advocated by the Yanks (see the

Illustrated above and below are some of the junk heaps which are placed around the layout to add that 'well used' appearance.



Roco 0-6-0 heads a mixed consist through the yard.The log wagons were based on Roco bolster wagons, while the logs were collected from the garden.





These two photos show some of the detail that is spread around the layout. On the left is the small quarry scene while the windmill features in the photo on the right.

June 1981 issue of Railroad Model Craftsman), as well as a Relco track maintainer. This combination provides reasonably satisfactory performance. The half-wave rectification option on the Clipper controller also helps at low speeds. A Kadee loco wheel cleaner is used at frequent intervals.

I haven't yet found a cheap and satisfactory solution for uncoupling of OO-9 rollingstock. The Peco uncoupler is pretty hopeless. Rather than raise the couplings, it tends to throw entire wagons off the track!

Scenery and Structures

I find this aspect to be one of the most rewarding parts of the modelling process.

After the track had been laid and tested a sheet of thick card was mounted to form the backscene (and later painted — you guessed it — sky blue). A couple of sheets of 19mm styrene foam were purchased and the landscape formed up in layers (rather like a contour map when viewed from above). Each layer was glued to the previous one with Aquadhere, about the only glue I found that didn't melt the foam. When dry, smoothing and roughening with a sharp knife completed the process. Odd lumps of styrene foam were then glued into place (again with Aquadhere) to form various rock outcrops and formations.

The whole lot was then covered with a skin of sheets of newspaper soaked in textured ceiling paint and left to dry. This paint is very thick and jelly-like (thixotropic) and contains a certain amount of sand. The resultant landscape was therefore pleasingly un-smooth. The texture-paint-soaked paper dries to a reasonably hard but slightly elastic finish. It is, of course, necessary to support the paper skin everywhere — the texture-paint technique will not work if used as a shell.

Further surface texture was applied by sprinkling and patting scatter material onto a coat of gloss paint (green and brown). Extensive use was also made of cork granules, which I didn't bother to paint or dye. Rocky outcrops were not covered with scatter material but were painted instead with earthy matt Humbrol colours.

My limited experience suggests that with scatter materials, you get what you pay for. Woodland Scenics products appear to be very good. Another much cheaper brand rapidly faded from green to an orange/brown, necessitating later touching up with flat green poster paint.

I like to think that the overall result is typical of granite/gravelly type country, but perhaps with a touch too much orange in the colouring.

The two tunnel mouths are really N scale double-line, since that's what the shop had at the time. Fencing is by Atlas (kit #777 HO scale rustic fencing), appropriately weathered. Telephone poles are by Herka, I think, as is the windmill. (The windmill kit was reviewed in the September/October 1981 issue of AMRM. I too found the complete lack of assembly instructions of any kind somewhat disappointing, but the kit made up into a very nice model.)

There are five buildings so far. One is an old Triang trackside hut with the window glazed to improve its appearance. Another is an Atlas HO scale trackside shanty (kit #701) with the plastic base cut off and appropriately weathered again. The remaining three are scratchbuilt. One is little more than an old machinery shed in the quarry, used to protect a Dyna-Model Products HO coal conveyor. Another is an as-yet unroofed station platform and building — I haven't had time to apply the corrugated iron sheet, so have left it as it might have been left in reality. The fifth building is in fact my first scratchbuilt structure based loosely on the Gwabegar goods shed described in the December 1982 edition of AMRM. Balsa wood was used extensively in these structures.

The water crane (totally out of place but at least my locos have water) is by Peco, as are the coal staithes.

Bushes were made by cutting off and using only the fine tips of lichen. The remaining coarse pieces were discarded. Trees were made, in the main, by using those dense small roundish bits from ti-tree as a foundation, with scatter and foliage material sprinkled on, interspersed with sprays of matt lacquer.

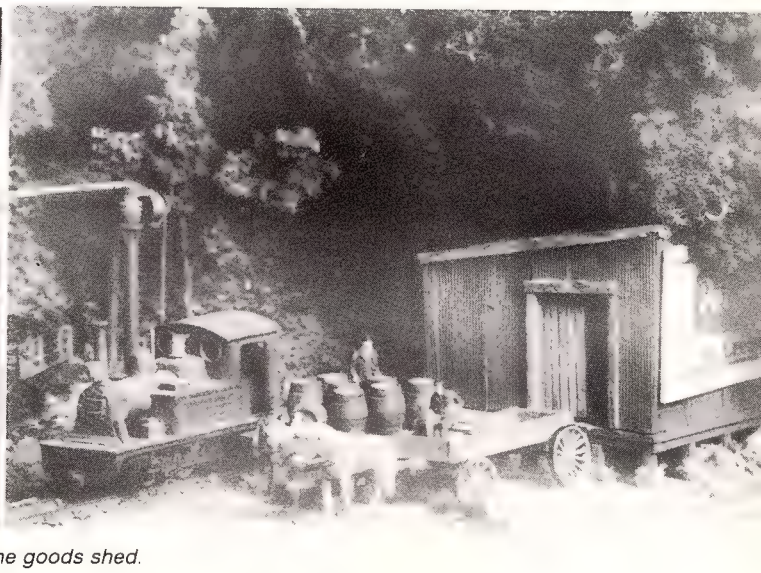
Road surfaces are sieved cork granules pressed into a layer of Aquadhere and then liberally soaked with the same mixture as was used to secure the ballast. Rail crossings were made from 'planks' of balsa, glued into place.

I went a little overboard with the junk heaps. These are the Chooch Enterprises moulded and painted junk piles (#7128 and #7006) and I found them irresistable.

People and animals are mainly by Preiser. I purchased the bulk unpainted kit (No.327) of rural groups and horse-drawn carriages, which is excellent value if you like to paint small things. I am gradually installing the myriad of other small details needed to bring the layout properly to life.

With all the structures, I have attempted to paint them in a way which suggests heavy weathering. This has made an enormous and

Continued on page 19.



Activity at the goods shed.

ROYAL'S STORE

Harry Grosvenor describes the building of a country store in HO scale.

The match flared between cupped hands. Uncle Alf gave three quick draws and then leaned back on the long-legged chair common to older country stores. The chair was usually placed close to the counter and conveniently suited the local ladies who came to buy and stayed to gossip. The chair also suited the younger fry who, when seated high on its seat, found themselves not 6" from the huge jar of boiled lollies, which was for them the dominant feature of the long wooden counter.

Boiled lollies was a subject far from Uncle Alf's mind as he began his usual grumble about the Government and the amount of the pension. Facing the old sleeper cutter and with his back to the big wooden bins laden with sugar, flour (plain and self-raising) and dried fruits, was old Billy Royal, the store's proprietor. Billy's high cheekbones and slightly narrowed eyes provided the clue to the old man's parentage — Chinese. His folks had come to Australia following the lure of the yellow metal but lack of success on the goldfields no doubt had contributed to the family's venture into business — that of the General Store.

Billy and Uncle Alf were really quite good mates, but strangers to the store sometimes thought otherwise if they chanced upon a heated discussion. The tiny General Store stood directly across the street from Wayneville Station in Orbella Valley. The store itself was a small weatherboard structure with a false front hiding the gable roof. It comprised just two rooms, the larger of the two being the shop. The smaller room did duty as an office and a storeroom. A single four-pane window dominated the store front which was shielded from the sun's rays by the usual posted verandah.

Inside, a vast array of groceries, hardware, clothing, footware and miscellaneous objects filled the small shop to capacity, from the ceiling overhead to the sawdust-covered floor below. Stepping inside Billy's General Store was like turning the clock back fifty years.

Through the open doorway in the mid-morning sunlight could be seen a Y class diesel shunting the goods road following the departure of the five to nine 'Up' goods to Shirleyvale. A haze of smoke prefaced Uncle Alf's next remark "Remember when that old D3 de-railed at Partelli's Crossing?" . . . but then that's another story and we'll leave them now with their memories.

Note: Uncle Alf first appeared in an article entitled 'Aunty Maisie's' — AMRM, April 1983.

Royal's Store — The Model

Royal's Store is a neat little weatherboard structure with a certain character that allows it to be used in a smallish space on a variety of differently styled layouts and at best on a typical 'Aussie' type layout. The prototype for this model is to be found at Bruthen on the Melbourne to Orbost line in far-east Gippsland. When I first knew it, the store was in fact a chemist's shop, but for my layout I converted it to a small general store.

I began the model by first making the false front from a piece of 0.040" thick styrene to the shape and dimensions as shown on the drawing. The sign was done using dry transfer lettering as a mask — explained in detail in AMRM of March/April 1977 by Wayne Lang. If you haven't a copy, it goes something like this: Select a suitable style of dry transfer lettering in Letraset or similar and make up the required sign by applying the letters to the plain white styrene. Should you want other than white letters in the completed sign, paint the false front the colour you require and allow to dry thoroughly before commencing. I chose large letters for the word 'ROYAL' and used smaller characters for the initials 'W&S' and 'GENERAL STORE'. The store front was then painted with a Humbrol Matt paint and put aside to dry (2-3 hours). I then applied clear adhesive tape to the area where the lettering was and lifted it off to expose the background colour, in this case the white of the styrene. Several applications of tape were necessary. In some cases the tape lifted off a trifle of colour as well but this only served to weather the sign a little — all to the good really. The storefront was then put aside for the paint to harden over the next week. The trim was applied later.

The next step was to make the structure itself, a simple gable-roofed building. Lay out the walls using Evergreen Scale Models Clap-

These three photographs illustrate a layout sized prototype store at Bruthen in far-east Gippsland, just waiting to be modelled. The Melbourne to Orbost line, although not visible, runs within 100 metres of the rear of the store.

board siding No.4051 and cut to shape. Before marking in the positions of doors and windows, decide whether you wish to make your own or whether you will use ready-made ones. Although I made up my own, I suggest that it's easier to use a Campbell No.912 for the rear door and a Campbell No.915 for the front door. If that's the case, you will need an opening of 24mm high and 11mm wide for each door.

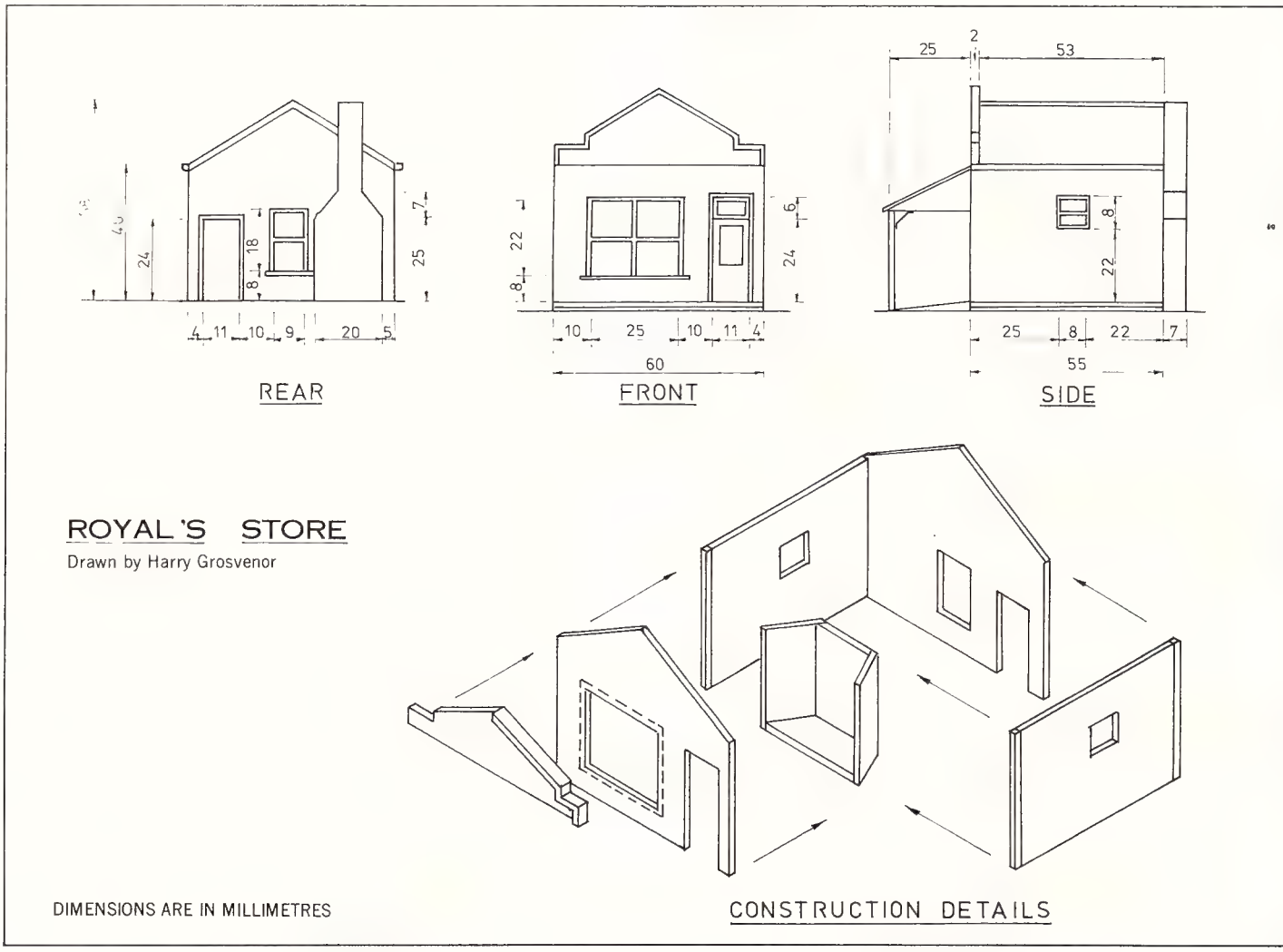
I also added a window light above the front door for added effect. The storefront window is comprised of four large panes and there's nothing quite like it advertised in the Walther's Catalogue so I suggest you make your own. The closest item available in Walthers is a Grant Line No.5077 storefront which will need to be used horizontally. The small window on each side of the building could be very well represented by a Campbell No.903 two pane double hung window. You will need a 9mm square opening to accommodate the same. The final window in the rear wall is a Campbell No.900 vertical double hung, six pane window requiring an opening 18mm high and 11mm wide.

Having marked in all the window and door apertures, carefully cut them out and fit each door and window in place. It is a good idea to size the final opening by filing. Do not apply any glazing at this stage. Cement a strip of Evergreen Scale Models scale 4" x 4" styrene strip to each side of the end walls. This represents the end stop on a weatherboard wall. Now assemble the side and end walls and set aside to dry. If you're using a liquid solvent type of glue (I use Britfix Poly 70) this won't take long – 30 minutes or so.

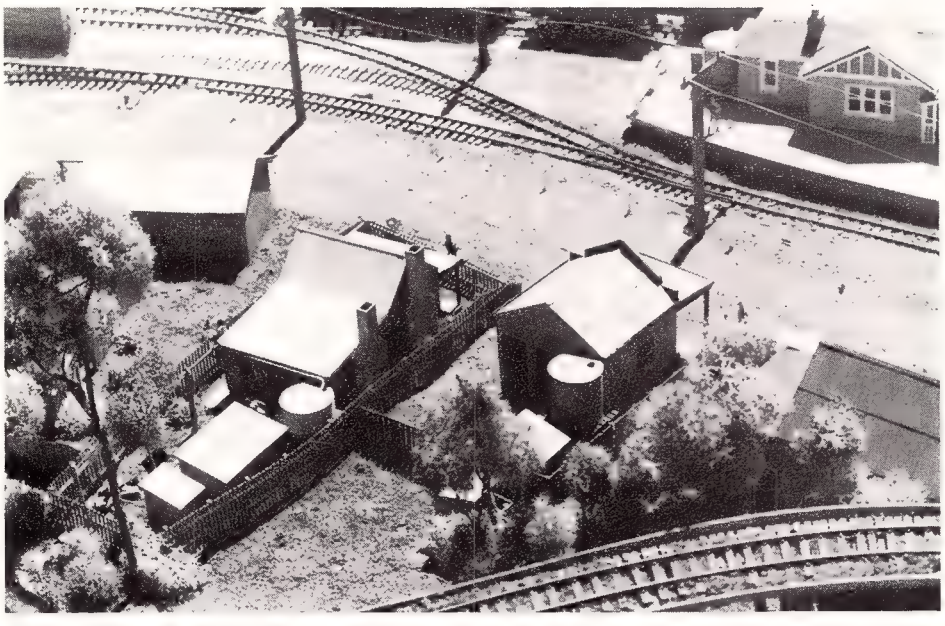
For the gable roof, cut two pieces of 0.040" plain styrene and fix in place on top of the walls. Use the dimensions shown as a guide, but note that on this building the eaves do not extend past the walls. Re-inforce all internal corner joins with scrap styrene strip. Fix the false front of the building in place and apply the trim. I used ESM 2" x 8" scale styrene strip. The trim should be flush with the rear to produce an overhang in front and thus frame the signwriting.

Cover the roof with corrugated iron. I used Gordon Duncan's and for a realistic effect it would be best to have two rows of iron. Place the bottom row first and then fix the upper row in place so that there is a slight overlap. Gordon Duncan used to put out tray deck sheeting. I discovered one time that when cut into suitable sized strips along each side of the ridges, that a very passable ridge capping and end flashing could be made. A thick paper such as a drawing cartridge could also be used. For the guttering on each side of the building I used Plastruct $^{3}/_{32}$" angle cut to length and fixed in place with a contact cement.

Nestled between the Hall and Aunty Maisie's, Royal's Store is about to receive a visit from a commercial traveller. The trestle bridge in the background carries a narrow gauge line from Wayneville to the Black Snake Copper Mine up in the hills.



With Wayneville Station in the foreground, Royal's Store is a good base from which to conduct a spot of rail fanning.



The view from the hill overlooking Wayneville. The strong midday sun casts heavy shadows over Aunty Maisie's and Royal's Store.

Photographs by Harry Grosvenor using a Minolta SRT 101. Film was Ilford HP5 400 ASA taken at a speed of 1/400th at F16 in natural sunlight.

A worthwhile feature on this building would be the addition of stumps. I used ESM scale 6" x 6" strip styrene cut to a length of 10mm. These were fixed at intervals of 15mm to the bottom edge of the walls on the inside to protrude 5mm. Two rows of ESM 2" x 4" scale strip were then glued to the stumps, allowing a 1mm gap.

At this point it would be wise to paint the building in the colours of your choice before the front verandah is fitted, otherwise it will be difficult to paint the storefront window and door. My colour scheme was done using brown tonings with a light grey for the roof. A little silver added to the roof paint seems to put the sparkle needed into that area. Rust streaks can be dry brushed on once the paint has begun to dry so that a little blending takes place as you apply them.

The simple front verandah is made once again from 0.040" plain styrene sized to the dimensions shown. The two triangular roof support pieces are glued to the underside of each end of the roof and the front filled in with a length of scale 2" x 8" strip. To this a length of Plastruct angle is edged fastened with contact cement to simulate guttering and then the roof covered with two rows of galvanized iron. End flashing was once again strips of tray decking cut lengthwise. The roof structure is supported by three verandah posts made from ESM scale 6" x 6" strip. These rise from a piece of 0.020" styrene, 25mm x 60mm, which is fixed to the front of the building to do duty as a floor. Note that this slopes down from the building to the verandah front (see illustration). The verandah and floor could now be painted and the glazing added to the doors and windows of the main building.

To help camouflage the emptiness of the inside of the building, I added a display shelf and screen to the inside of the main store window (see illustration). Make sure that you paint this before fixing it in place. Should you wish to light the building, I suggest that a floor be added to stop light showing beneath the building and filtering out between the stumps and slats. I really don't think that there's anything more disconcerting than to spend hours building a finely detailed structure and then to see it float on a sea of light when the switch is thrown. I have found, too, that it is often necessary with buildings made of styrene to paint all internal walls a dark colour. This acts as a further barrier to light.

'Royal's Store' is now ready to be put in its chosen position. Although my illustrations show a chimney, I dispensed with that item and added a galvanized iron water tank and stand. Other details added to my model included the ubiquitous outside 'dunny', a paling fence, iron gate, storefront seat and, of course, people. Old Billy needs to see those customers. ■

HILLSIDE

Continued from page 16.

positive difference to the appearance of the layout.

Locos and Rollingstock

Rollingstock is a mixture of Roco and kit-built. Two four-wheeled Mike's Models white metal OO-9 coaches were assembled, not very well since they were my first. In any case, the wheels and bearings on these are terrible. The couplers supplied I found impossible to assemble so I used Peco OO-9 couplings instead. These match well with the Roco wagons. The other kit coach was a white metal Festiniog Railway bogie brake/observation coach, using N scale bogies of unknown descent (they were contained in a big box at my model shop). OO-9 couplings by Peco were again installed.

The three locos are steam outline. Two are proprietary models (one by Roco and one by Lilliput). The other I built from the white metal Peco 'James' OO-9 kit. Unfortunately, the Arnold chassis supplied with this kit appears to have been built on a Monday. Despite this, the completed model is very pretty in appearance, if not in operation.

The relatively small amount of stock I have is more than enough for the layout. I can run one passenger train and two goods trains, each with a variety of consists. When I get the uncoupling problems sorted out the operation of the layout will be even more interesting.

All the rollingstock has been weathered, again adding substantially to the appearance of the layout.

The Future

I have many more trees, bushes, grass etc. to make up and install. I am convinced that a proper incidence of vegetation is far more important than buildings or people (although all are required eventually, of course). Sooner or later I will have to have a go at painting on a decent backdrop to improve the impact of the plain sky-blue which exists at present, although even that is better than nothing.

When the layout is finished (!!) I will have learnt many lessons. The next step, perhaps in a couple of years' time, will be to build something larger which offers more modelling scope.

In the meantime, I can only say to those who have been reluctant to commence a first layout — give it a go, make it small to begin with, and aim for the highest standards of which you are capable. You will surprise yourselves! ■

CURVES BY COMPUTER

by Graham Saint

In my previous layouts I'd never been happy laying out curves, a topic that doesn't seem to be discussed much in model railway literature. I decided that on my current layout I'd make a real effort to come up with a system that would please me.

Previously, I'd used what seems to be the standard method — a piece of wood fixed at one end and with a pencil at the other. I wasn't happy with this system for a number of reasons.

Firstly, I planned several areas where there would be grand, sweeping curves five or six metres in radius — it was going to be awfully difficult to lay those out with a radius bar! Secondly, there were several spots where the curve centre would be outside the layout room. Thirdly, the method had given me trouble on previous layouts — it was often difficult to ensure the tangent was at right angles to the radius, resulting in a kink where the curve commenced.

Lastly, I wanted to use easements. I had experimented with easements enough to know that I felt they were worthwhile but the methods used to lay them out were awkward.

The August 1979 edition of 'Railroad Model Craftsman' carried an article titled 'Curves Without Centres' by Don Casler. Here the author pointed out that prototype railways don't swing a tape from a centre — they lay a curve by calculating offsets from the tangent as shown in Fig.1.

Cassler presented a set of tables giving distances from offsets for a whole set of radii. It is fairly simple to derive the formula (Cassler gives it) linking offset to tangent distance (TL) for given radius (R). It is:

Offset = R * (1 — COS (ARCSIN (TL / R)))

Cassler also deals with the problem of laying out a curve to join two tangents that intersect an an angle A — refer to Fig.2. (For a circular curve the distances PX and QX must obviously be equal.) He uses a geometric method involving drawing triangles to work out the radius of the resulting curve but there is no need for this — the formula can be derived by trigonometry and I give it here:

R = TL / TAN (A / 2)

Armed with these two equations and a pocket calculator, we can draw up our own offset tables for any situation and lay out our curve without caring in the slightest where its centre is. That leaves us with the problem of easements.

The October 1969 issue of 'Model Railroader' had a set of templates for laying out easements (which I'd tried and found too difficult to use) and, more importantly for me, an article giving the mathematics of prototype easements. The article had three authors — Bruce P.Bardes, David Stackhouse and Linn H.Westcott — and is well worth reading for the background it gives on the history of prototype easements and the reasons for their use.

The essentials of an easement are shown in Fig.3. Instead of the circular curve meeting the tangent directly, there is a section where the track spirals into the curve. The length of this spiral section, marked 'L' in Fig.3, is called the length of the easement. According to Westcott, for an easement to be effective it should have a length at least equal to the length of the longest piece of rollingstock that will pass through it.

Modifying our simple formulas given above to take into account easements is going to give us a fiendishly complex formula because the offset formula for the spiral transition is different from that for the circular curve and because the circular curve is now offset from the tangent. In fact, we now have to solve a quadratic equation simply to find the radius of the circular curve.

Fortunately, a personal computer can do all the donkeywork for us. I fired up my Apple II and wrote a program to calculate a table of offsets for easemented curves. The program is written in Applesoft BASIC but should adapt easily to any microcomputer whose BASIC supports trigonometric functions.

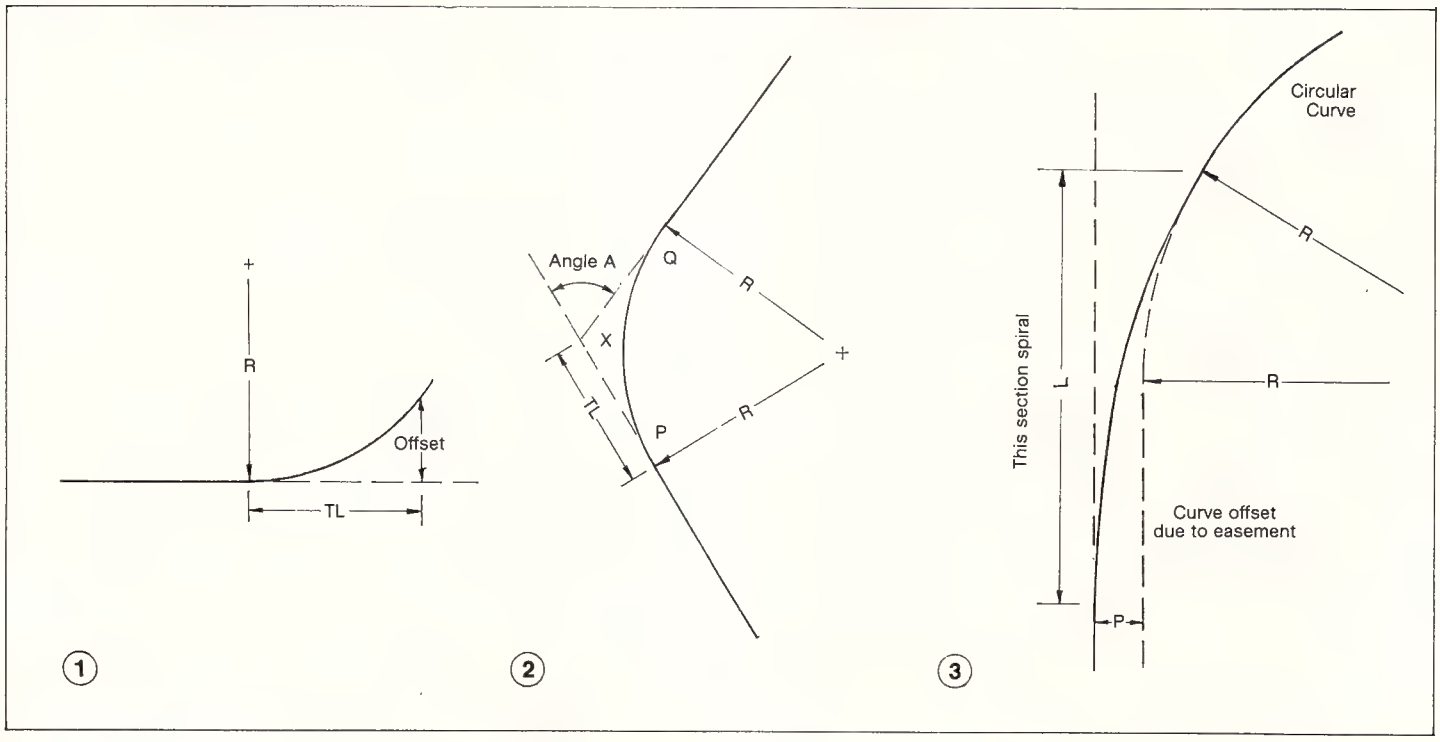
Continued on page 26.

Main Variables Used in Program

L	Length of easement
HL	Half of L
TL	Distance from start of curve to intersection
AD	Angle of intersection in degrees
AR	Angle of intersection in radians
RO	Provisional radius of curve
R	Actual radius of curve
P	Offset of curve centre due to easement
C	Part of cubic spiral formula
TM	Limit beyond which offsets need not be calculated
X	Distance along tangent from start to curve
XO	Distance along tangent from start of circular curve
OF	Offset of curve from tangent at distance X

Program Listing

```
 10 REM RAILWAY CURVE LAYOUT PROGRAM
 20 REM          BY G. SAINT OCT 1984
 30 REM ARCSIN FUNCTION
 40 DEF FN AS(W) = ATN (1 / SQR ((1 / W) ^ 2 -
    1))
 50 REM INVERSE COSINE FUNCTION
 60 DEF FN AC(W) = ATN (SQR ((1 / W) ^ 2 - 1))
 70 TEXT : HOME : PI = 3.14159
 80 PRINT "RAILWAY CURVE LAYOUT"
 90 PRINT: INPUT "ENTER LENGTH OF EASE-
    MENT"; L
100 HL = L / 2
110 INPUT "ENTER LENGTH OF TANGENT"; TL
160 INPUT "ENTER ANGLE IN DEGREES"; AD L
170 AR = AD * PI / 180 : REM CONVERT TO
    RADIANS
180 REM CALCULATE RADIUS OF SIMPLE CIRCU-
    LAR CURVE
190 RO = (TL - HL) / TAN (AR / 2)
200 REM ADJUST FOR EASEMENT
210 TO = (RO * RO) - (L * L / 6)
220 R = (RO SQR (TO)) / 2
230 PRINT: PRINT "RADIUS OF CURVE IS"; R
240 REM NOW CALCULATE TABLE OF OFFSETS
250 INPUT "ENTER TABLE STEP SIZE"; D
260 P = (L * L) / (24 * R)
270 C = 6 * R * L
280 TM = HL R * SIN (AR / 2)
290 PRINT: PRINT "DISTANCE"; TAB (21) "OFF-
    SET": PRINT
300 X = O
310 X = X D
320 XO = X - HL
330 IF X < L THEN OF = (X ^ 3) / C
340 IF X > = L THEN OF = P R & (1 - COS (FN
    AS (XO / R)))
350 PRINT X: TAB (21); INT (OF * 100) / 100
360 IF X < = TM THEN GOTO 310
370 PRINT: INPUT "ANOTHER CALCULATION
    (Y/N)?"; A$
380 IF LEFT$ (A$,1) = "Y" THEN GOTO 70
380 END
```



Koorawatha's platform, station building and yard. The Grenfell branchline can be seen in the background. Access to the platform is via the dirt road crossing in the foreground. (This branch road now removed — September 1984.)

KOORAWATHA

A Modelling Possibility Where Code 55 Meets Code 70

by Bob Cooke

All photos by the author.

If modelling NSWR prototype is your 'thing' and you are looking for that particular interesting branchline junction having plenty of nostalgia from the past as the theme for your layout, then Koorawatha might be your cup of tea.

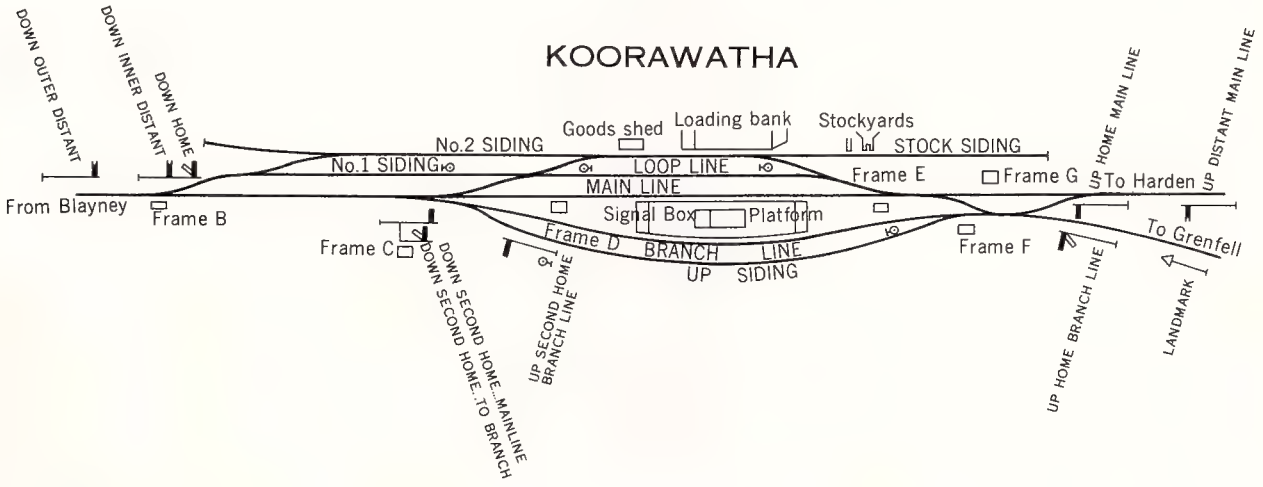
Where is Koorawatha? Well, if you ever take that inland NSW sightseeing car trip along the Olympic Way which connects the picturesque Mid Western town of Cowra with the South Western Slopes Cherry Capital of Young, the historic little village of Koorawatha is situated almost at the halfway point.

It is at Koorawatha that the 60lb railed class 5 branchline servicing the wheat growing District of Grenfell junctions with the 90 and 94lb Class 3 branchline which connects Cowra with Young, and eventually Blayney in the West with Demondrille and Harden on the main Southern line.

Historically, the village of Koorawatha was first known as the hamlet of 'Bang Bang' and once boasted a back street hotel, demolished about 1940, which was the scene of an intense gun battle between bushranger, Ben Hall, and NSW Mounted Police Constables Scott and McNamara back on 20 May 1864. Maybe this could have something to do with how the hamlet first got its 'artillery' type name.

The main railway branchline which passes through the village environs was opened on 1 November 1886, the construction name of the station platform being retained as 'Bang Bang', whereupon the name was changed to the present name of 'Koorawatha' in 1888. Prior to this, the local public school was opened in March 1884 as 'Monica Vale', which was the name that was also adopted by the local Post Office. But nevertheless, the name 'Koorawatha' has been the name of the railway junction for almost 100 years.

During this short period of history, Koorawatha has witnessed many an historic sequence of events from the passing of trains in 1915 carrying Australian Light Horse volunteers destined for World War 1 battlefields of the Middle East to numerous World War 2 troop trains in 1940 transporting elements of the ill-fated 8th Division as well as other troops to the training camp at Bathurst.



Top: *Looking southwards, the back platform awaits restoration, whilst the adjacent platform road which was the start of the Grenfell branchline has now been disconnected at each end of the yard pending removal.*

Centre: *The back platform view illustrates construction detail on the western side of the station building. The signal box at the left is an 'add-on' to the original building.*

Bottom: *Front view of the station building shows the signal box attached to the right. This A-frame structure lends itself to modelling as does the platform embankment. As scaled from Way and Works plan No.904-39546 'Koorawatha — Renewal of Leads' (available from SRA Archives), the station building roughly measures 14ft wide by 64'6" long.*

In recent times, the rail traffic passing through Koorawatha has sadly waned, particularly passenger services and the old mixed goods train. The once regular tri-weekly passenger service ceased on Saturday 26 November 1983 when Harden-based Railmotor CPH 27 made its last cross country jaunt, having departed Cowra at 8.45 a.m. It pulled in at Koorawatha around 9.12 a.m. where the safe working 'peg' (section staff) was fed into the staff machine to the ring of bells and exchanged for a 'Koora-Young Section' staff, after which the little motor sped away to attack the hills of Monteagle which lay ahead of Bendick Murrell en route to Young and Demondrille.

Gone forever are the cheery faces of the Railmotor crew, Driver Wally Smith and Guard Max Duffey and Stationmaster Terry Quinlivan and the 'hum' of the little CPH, as I recall those passing memories of Koorawatha in the late 1970s, including the too few rides I had on 'one-off' Railmotor CHP 38 which is now preserved by the Dorrigo Steam Railway and Museum. Today, Koorawatha remains a quiet little village which is now only visited intermittently by wheat trains usually hauled by 48 class locos when silos located along both branchlines take their turn to be emptied of 'the grain'.

Apart from having an appreciation of the history and nostalgia of the place as motivation for constructing a layout based upon Koorawatha, one has to take into consideration other possible alluring aspects for the modeller, such as:

(a) Attractiveness and simplicity of the landscape and environs;
(b) Railwayana memorabilia at the location, such as water columns, elevated water tanks for the watering of steam locos, yard layout, signalling equipment as well as track-side buildings, and the simplicity of modelling all these aspects; and
(c) Locos and rollingstock which traversed the confines of the yard and platform during the early, middle or later years of Koorawatha's near century of existence as a railway junction.

The numerous photographs complementing this article, together with their appropriate captions, will supply a good deal of information topography and railwayana detail. However, decisions on appropriate engines and rollingstock will depend upon the period or periods in history which appeal best to the prospective modeller. Koorawatha has good scope in this regard. Usually, after scrutinising photos of a good location, one tends to ponder — "The place seems to fit what I want but what can I legitimately run on a scale model of the place which is historically correct, without drawing the usual derogatory remarks from visiting arm chair modellers. Which is very off-putting, when all I want to do is to give my brass Garratt or D57 a run."

Regardless of whether this may be a strong consideration in choosing a particular location as the theme for a layout, knowledge of a specific place usually makes one curious as to what type of rail traffic frequented 'the metals' at one time or another. In this regard, some information on train movements early this century between Harden and Cowra passing through Koorawatha has been generously supplied by ASM, Doug Palmer of Young. This particular information has been gleaned from an old guard's notebook now in Doug's posession which once belonged to Harden guard, C. J. Wilson, during the period 15 September 1913 to 21 January 1914. Table 1 records the traffic activity between Harden — Koorawatha — Cowra, which is typical of the period:

Table 1

Train	Date	Loco	Details
No.12	15.9.13	T671	Depart Harden 12.10 a.m., Arr Koora 4.15 a.m. (15 minutes loco servicing), dep Koora 5.03 a.m.
No.12	23.9.13	T608	Same timetable as above.
No.12	24.9.13	T627	Same timetable as above.
No.23	2.10.13	P793	Depart Cowra for Harden 5.40 p.m., arr Koora 6.55 p.m., dep Koora 7.30 p.m. after taking water.
Special	21.1.14	D262	Depart Harden 7.25 p.m., arr Koora 11.05 p.m. (15 minutes loco servicing), dep Koora 11.20 p.m.

Locos operating out of Harden likely to have traversed the Demondrille to Cowra section of the cross-country branchline at that particular time were seen to be: T671, B208, T779, T608, T627, P838, L441, C176, P793, T866, B323, T626, P105, T675, D262, CG23, T769, B234 and T886. Obviously the saturated 50 class was the chief workhorse of both the branch and mainlines during the period just before World War 1, with occasional visits to the branchline by Z12, Z14, Z16, Z22 and C32 class steam locos.

For the period which covers the early to mid 1960s, which is quite a popular period for many modellers because of transition to diesels, the various works of pictorial historians, the Brothers Booth, can be consulted, in particular Bob Booth's article 'By-ways of Steam — Cowra' which appeared in the January 1980 edition of the NSW Rail Transport Museum's Magazine 'Roundhouse'.

Here we learn from that particular article, together with pictorial coverage, that operating out of Cowra for branchline train workings to Koorawatha and beyond were the following steam locos to name but a few: 2531, 2534, 3008, 3016, 3041 (saturated), 3063, 3092 (saturated), 3273, 3324, 5109, 5118, 5412 and 'Katies' 5595 and 5597.

To my mind 'Roundhouse' is of great value to the NSW modeller as the pictorial coverage and numerous articles are most helpful, particularly in determining correct engines and rollingstock for specific regions and the period.

In considering Koorawatha as a modelling possibility, together with its off-shoot branchline (the Grenfell branch), it should be remembered that only engines of light axle load, such as Z12, Z14, Z25 and C30T class locos, were permitted access to the Grenfell line from Koorawatha. This was because of the light weight 60lb rails used on the branch and the tightness of the many eight chain radius curves on the line which caused many a squeal from revolving wheel flanges.

As far as the late 1940s and early 1950s are concerned, I did sight some old loco servicing records held by Bill Hodgkinson, the Cowra District Locomotive Engineer, back in 1978 which indicated that the following engines resided in the area, more than likely having traversed the main branchline to Koorawatha: 1407, 2417, 2510, 3006, 3219, 3233, 3267, 3292, 3333 and 3369.

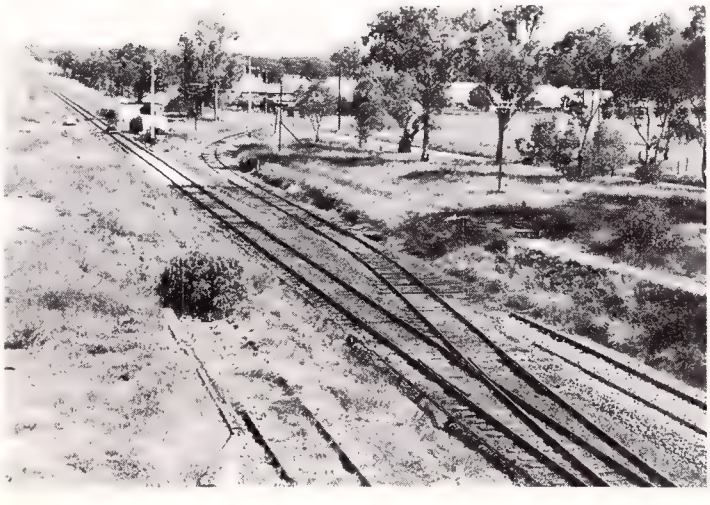
C36 mainline locos did not travel the branchline, through Koorawatha to Harden or vice versa, until the late 1960s. D. L. E. Hodgkinson did mention that, as far as he knew, a C35 class did visit the area on one occasion after the main branchline had been upgraded to accommodate regular visits by C36 class engines.

Since the beginning of the era of full dieselisation, I have seen numerous diesel loco classes visit Koorawatha during the 1970s, such as classes 42, 421, 422, 44, 442, 45, 47, 48 and 49. Also, ANR locos 848 and 849 in mustard pot livery, both of which hauled independently many a goods and block wheat train from Grenfell to Cowra via Koorawatha during the period 1977 to 1979.

Koorawatha was also visited by the Southern Intercapital Daylight Express and, believe it or not, the prestigeous Indian Pacific during the early and late 1970s due to the need to reroute these trains owing to an impasse on the Main Southern and Main Western lines. From memory, the causes were a derailment on the Western line and a bushfire somewhere near Bowning on the Main Southern line.

During various railway enthusiast steam tours which took place in the late 1970s and early 1980s, I have seen visits by a saturated C30T, a D53 and a D59 class and, of course, 3214 with a 44 class attached in the lead, returning from the Hay Railway Centenary in Easter 1982 with the vintage NCL set 88 Pullman cars in tow.

So it would seem that Koorawatha in its 100 years has had visits by nearly every class of



Top: *Depicted is the roadhouse and vintage pub located on the eastern side of the tracks. This is not the pub involved in the Ben Hall gun battle of 1864. However, it has been suspected that some of the Cowra garrison troops swallowed a schooner or two at this pub whilst returning from searching nearby hills for escapee Japanese prisoners-of-war during the time of the 'Cowra breakout' in 1944.*

Centre: *The main street of Koorawatha runs East/West between the roadhouse and the quaint vintage pub, where the beer is always cold. In the foreground is the dirt road leading to the station platform. The railway dam is sited in the hill area visible in the background.*

Lower Right: *From the southern end of the platform can be seen the overhead goods hoist, water column and vintage elevated water tank, which are all interesting on any model layout. A lamp room out-building once existed at this end of the platform.*

Below: *This elevated view of the southern throat of the yard shows the departure of the Grenfell branchline to the right. Note the old lattice mast Accept signal facing the main branchline from Young on the left.*

steam and diesel locomotive, except for small depot shunting and tank engines and the heavy mainline steam locos classes C38, D57, D58 and AD60, together with diesel locos 73, 79, 40, 41, 80 and 81 class. The 80 and 81 class will probably have access to the main branchline for haulage of block wheat trains when all light axle load timber bridges have been replaced or up-graded in the near future.

This then gives the modeller a good selection of motive power for operation on a layout based on Koorawatha as the theme.

As for goods wagons and coaching stock, it would be reasonably safe to say that nearly everything on the NSWR (and later SRA) system was hauled over the main branch at one time or another through Koorawatha, with the exception of some of the newer mainline bogie vehicles manufactured since the very late 1970s. A plan of the track layout at Koorawatha together with an air photo accompanies this article.

I would like to thank all those people mentioned within this article for their help in supplying information and also the following gentlemen for their valuable assistance: Barry Lees, SRA Divisional Engineer, Bathurst; John Forsyth, Ray Parr and Mike Collins of the SRA Archives; and Bruce Freeman of the SRA Telegraph & Signals Branch. A special thankyou is owed to Janet Walker of the NSW Department of Lands Air Photo Library for her assistance in supplying the air photo.

Bibliography: 'Tracking Down the Bushrangers' by Peter C. Smith, Kangaroo Press, 1982. (Highly recommended reading for all lovers of Australian history.) ▪

Left: *The Western facade of the Northern end water tank stands as a landmark, as does the Grain Handling Authority's bulk silo. Missing from the centre of the Grenfell branchline at the left is the loco servicing pit. The track in the photo now no longer exists.*

Below: *Koorawatha is now an unattended station except for occasional visits by the Cowra Assistant Station Master. This close-up view shows the platform and run-around roads as well as the wool dump siding. The other elevated water tank at the Northern end of the yard can be seen beyond the dirt road crossing. A number of out buildings once existed at the Northern end, this included a goods shed sited where now exists the concrete loading platform on the right of the picture.*

Lower Left: *Construction of model vintage cottages and churches is not everybody's cup of tea, but these skills can be developed and the western side of Koorawatha's tracks presents an interesting challenge.*

Lower Right: *Modelling the vintage water tank at Koorawatha could be fun as well as a challenge. A model of the water column in white metal is already available at the major hobby shops if you don't wish to scratch up your own.*

Top: *The northern end water tower appears to be a good scratchbuilding prospect. Sheet styrene and Plastruct I bar girders are readily available material and are sufficient to handle most of the job.*

Centre: *Looking along the main branchline towards the South gives the modeller a good idea of the environs and location of trackside structures.*

Lower Right: *The southern end of the yard is dominated by the vintage loco watering facilities. In the background can be seen the missing pointwork which until recently, connected the Grenfell branch with the now removed back platform road.*

Below *The yard layout of Koorawatha looking towards Cowra shows environs and topography that could prove to be an easy modelling project.*

The southern entrance to Koorawatha yard has a nostalgia of its own. Notice the difference in rail sizes, 60lb being laid on the Grenfell branch on the left and 94lb rail being laid on the main branch situated on the right. Cowra lies dead ahead. Pointwork and an Up siding lead previously existed to the left of the water column before March, 1975. This siding ran parallel to the Grenfell Branch at the left which can now be seen as cleared ground.

Koorawatha from the air. The sweep away of the Grenfell branchline can be seen on the left, whilst the station platform is distinguishable in the centre of the photograph along with the wheat silo at the far right. There is sufficient detail visible to assist with interpretation of the yard layout plan. (Air Photo Reference: Area M707, film 1932, print 5148, wheat storages.) Reproduction by permission of the Department of Lands NSW.

CURVES BY COMPUTER

Continued from page 20.

The program assumes that you wish to join two tangents (as in F ?). It asks the user to enter:

(i) the angle of intersection between the tangents
(ii) the distance from the point of intersection to the point at which the curve meets the tangent
(iii) the length of easement — giving a value of zero here will result in a simple circular curve
(iv) the stepping distance along the tangent at which offsets are to be calculated.

The program then calculates the radius of the resulting curve and displays a table giving offsets from the tangent against distance along the tangent from the start of the curve. Because the curve is symmetrical, the same table can be used along both ends of the curve.

For maximum use these figures should be printed instead of being displayed but it's in the matter of controlling a printer from BASIC that the various personal computers differ most from each other so I've left that for each person to code as appropriate for his or her machine. Besides, not everyone has a printer.

I'm using this program to plan curves on my current layout and I must say I'm very happy with the results. It's easy to lay out curves with this system and an easemented curve is certainly a beautiful sight.

On several occasions the program has revealed that a planned curve would have a radius below desired minimum and alerted me to the fact that a change in plan was needed. In the old days I would have blindly gone ahead and wondered why I had a kink in the track that resisted all efforts to get rid of it.

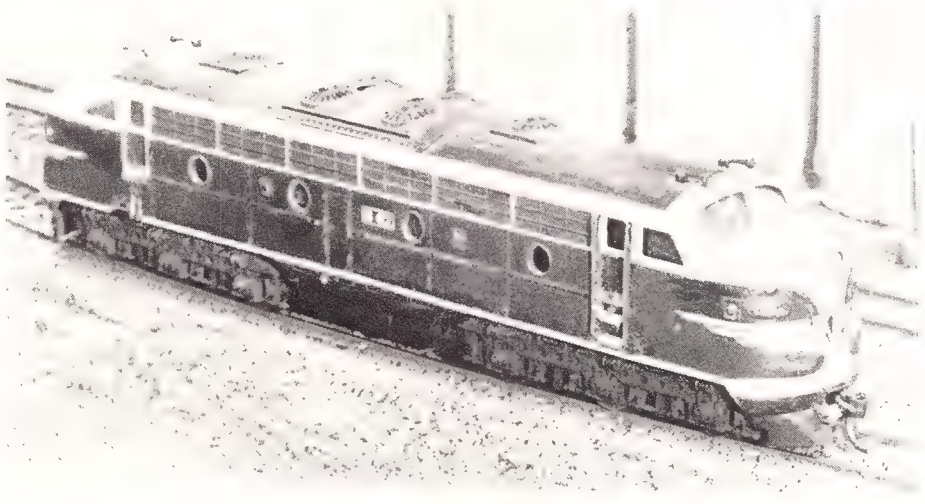
The program is shown in the listing. ▪

BASH-A-BEE

or

Mix two VR Ss together and get a B and (almost) an S .

by Ivan Davis



Don't be dismayed by the heading, it's easier than you think! Two VR S class divided by two equals one B class, with twice the power, and an S class bonus to boot.

Materials required:

2 Lima S, GM or 42 class locos
1 Mn'J decal set (No. 3103)
2 cow catchers (from your scrap box).

Introduction.

Whilst the cost of this conversion might deter the faint hearted, consider the following:

Very little is wasted and you gain a model that is virtually unattainable any other way. It is more powerful than any equivalent size brand name loco (that I know of) on the market today (see test results). Cost compared to some of the proprietary models is very reasonable and you score two sets of side frames for the Athearn powered loco that doesn't look quite right. Also a shell to make a reasonable S class out of that old Hornby GM.

1.

Remove the shells from their chassis and the clear perspex from the shells, also the horns from their locations; retain everything.

2.

Select one shell and, using a square along the bottom of the rear end, scribe a vertical line from the rear of the side grilles. Be sure not to mark or damage the very fine upright rod that just shows at the rear of the grille (see Fig.1).

3.

Very carefully, with your finest saw blade, cut across the roof behind the joint line of the access panel and in front of the rear fan base (Fig.1). Do not destroy the fans or their rectangular fan base; you will need them both later. Continue the cut right through and remove the rear portion. Now, without removing any material from the roof, cut horizontally along the gutter toward the scribed lines, then follow the scribed lines up to the saw cuts. You should have now removed the shaded rear section shown in Fig.1. Clean up the cuts with a file without removing any material from the grilles or the roof, i.e. body side panel material and the gutter only. Put this shell aside.

4.

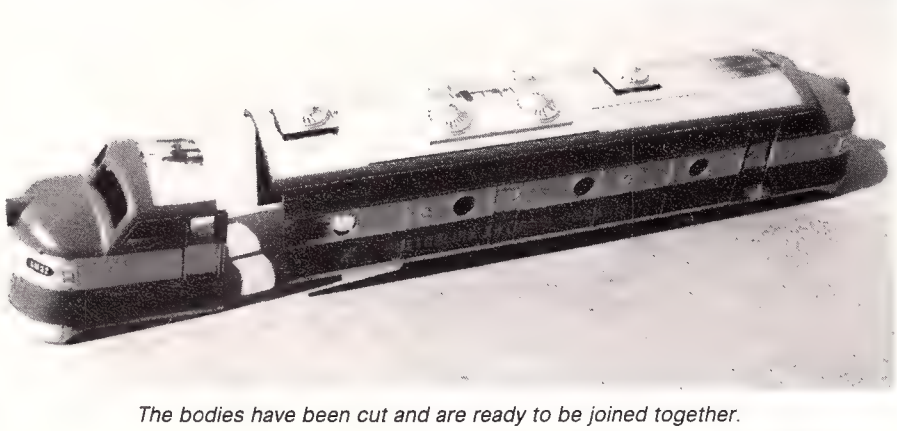
Take shell No.2. This time we concentrate on the front end. Immediately behind the door there is a vertical row of rivets and, if you look closely at the side grilles, you will notice a gap similar to the rear, between the frame of the loco and the ½" rod. Here's why we didn't remove the rear one — got the idea? OK. Provided that you are quite clear on this point, cut upwards, BEHIND the row of rivets. This time you will probably cut the thin rod. You will find it easier to cut one side at a time, then cut straight across the roof. (Into your goodies box with the rear section. This is where you score the extra S class.) By placing your newly acquired No.2 end up to the No.1 body, you will be horrified to find that it doesn't fit! The idea, of course, is to remove the six odd inches from the roof of the No.2 end. Cut carefully along the roof, this time removing ROOF MATERIAL ONLY. Gently file away excess material and match the two halves together, naturally checking for straightness as you go and — hey presto — there it is, with lifting lugs and everything a neat and perfect fit! Satisfied? Run some MEK in and set aside to dry. I have found that pure Methyl Ethyl Keytone (MEK) is the perfect solvent for the plastic type that Lima uses. But you have been warned before, use it very sparingly.

5.

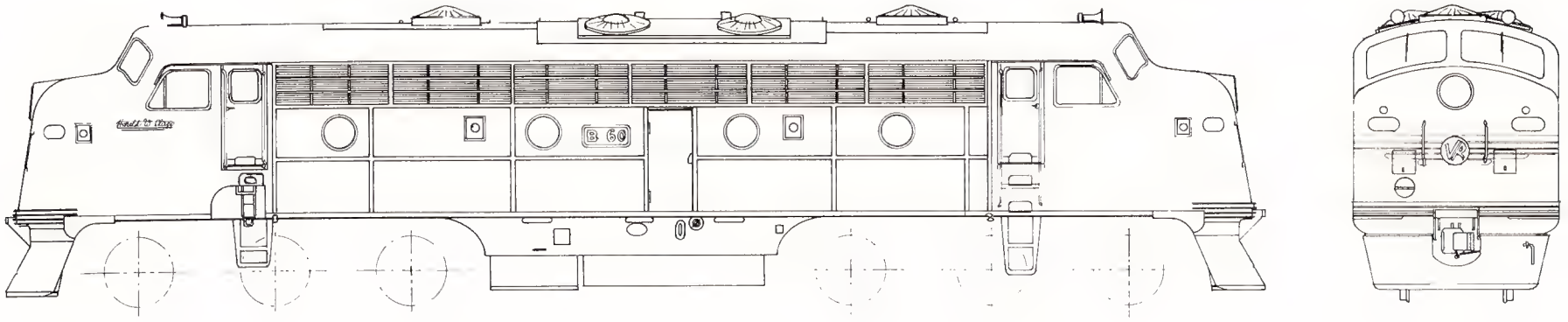
From the short cast off end of No.1 shell, cut out the two fan vents, taking the complete oblong flat section with them. Now flat grind them (surface plate and 240 wet and dry) until you have removed the minimum amount of material from underneath. the flattened base should be 3" thick, which is about the thickness of the model material. Next, divide and file them until you have two flat sections, each of 3'6" square, with a fan in the centre of each.

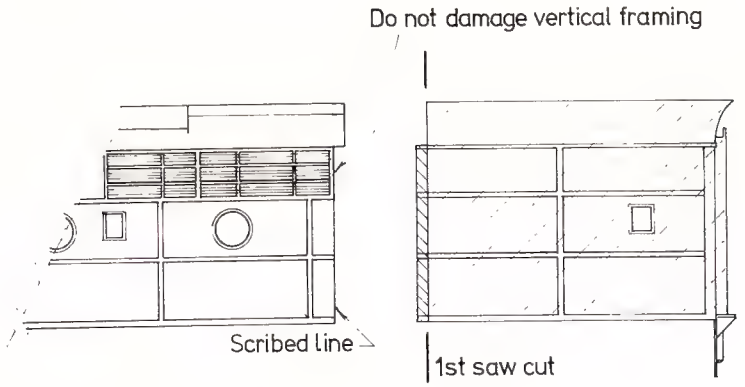
6.

Back to the shell. Make sure that you have allowed enough time for the MEK'd joint to be solidly set. Notice how the No.1 end has a larger access plate on the roof than does the No.2 end. Pick up the longitudinal centre line of each plate, and very lightly scribe a mark of about ¼" (actual) long near the centre of each plate, along this centre line. Now, using a datum point exactly midway between the exhaust stacks, measure 11'3" forward, toward the No.1 end and 12'3" toward the No.2 plate, which should put you exactly in the centre of No.2 end, but to the rear of centre of No.1. This will represent the centre point of each fan. They are NOT equidistant in relation to each

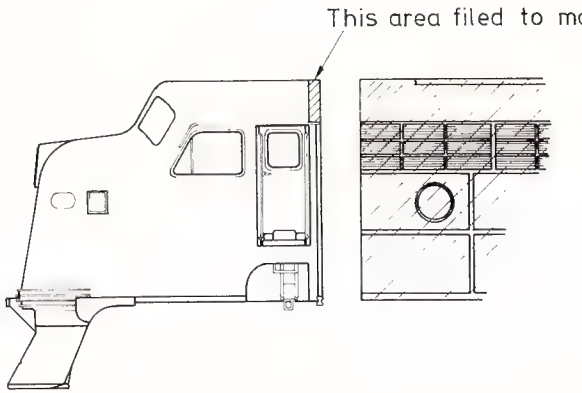


The bodies have been cut and are ready to be joined together.

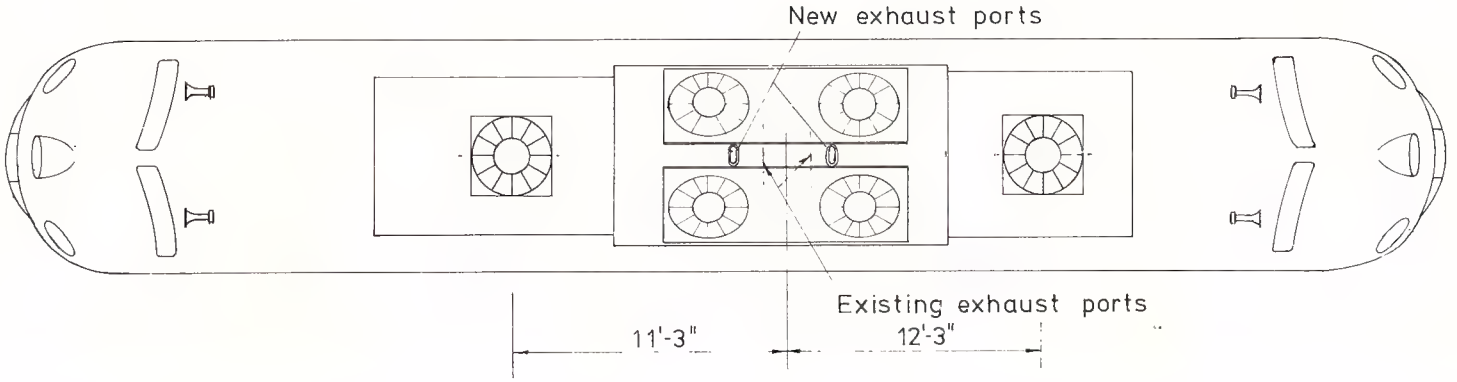



Do not damage vertical framing
Scribed line
1st saw cut

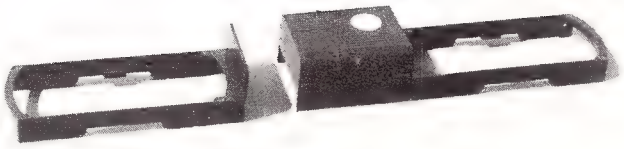
1


This area filed to match

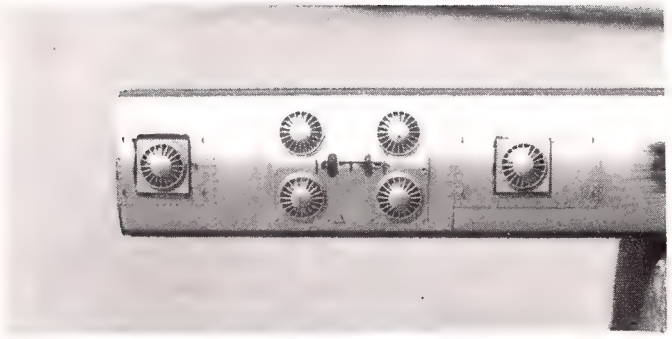
2


New exhaust ports
Existing exhaust ports
11'-3"
12'-3"

3



The two underframes are cut and filed to size.



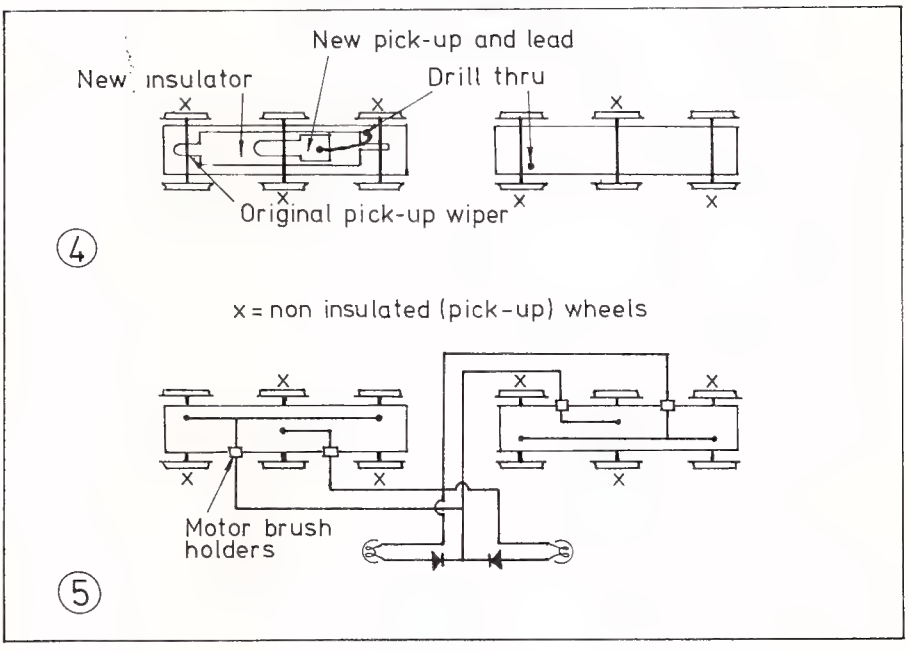
The roof showing the locations of the fans and revised exhaust positions.

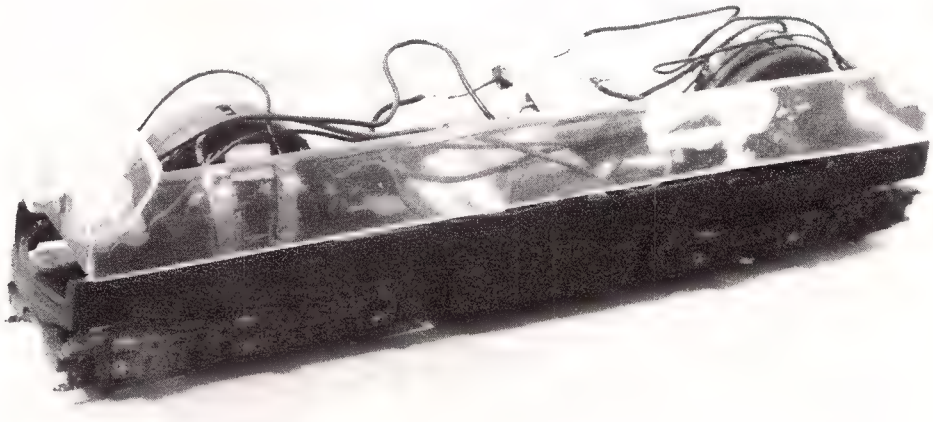
end.

Now, using this centre point, measure 1'9" each way along the centre line, i.e. 3'6" overall. The lifting lugs sited on each plate are 3'6" between centres laterally. Therefore, using the lugs, scribe a line between the two 1'9" marks then squarely across the plate, picking up the 1'9" marks. Voila! There's the position for the two fan bases.

The aim now is to file, scrap and cajole a flat horizontal and SQUARE surface for the fans to sit neatly in place (see Fig.3). I did it by first using a fine saw blade up to the lateral lines and just deep enough not to cut the longitudinal ones. Then I rough filed most material out and finished off by scraping with my X-Acto knife, naturally checking each fan as I progressed. Be careful not to go too deep, otherwise you will have ugly flat sections on each side of the bases and the bases will be too low. They should be 1" proud of the apogee of the roof arc and, of course, 3" on the outer edges. Happy? MEK 'em in! While you are filing the flats, remove the pips where the horns used to be.

During my research for this model, I discovered that the exhaust stacks, as cast in the Lima model, are now incorrect. It seems that some time ago VR changed the type of fuel oil to the present standard, which created a spark problem and therefore a bushfire risk in summer; consequently, the decision was made to fit spark arrestors to both the S and B classes. This modification removed both stacks and resited them 1' forward and rearward respectively, i.e. 2' further apart. The apertures left were welded over with a plate of the same eliptical shape. So, to update your model, file the stacks away, leaving enough material to represent a ¼" plate welded in position. The new stacks do not exist! All that appears are two holes of the same area and shape but 2' further apart. Just forward of No.1 exhaust port is a small pip, presumably from the casting process. Whether you update the exhaust system or not, clean it off.



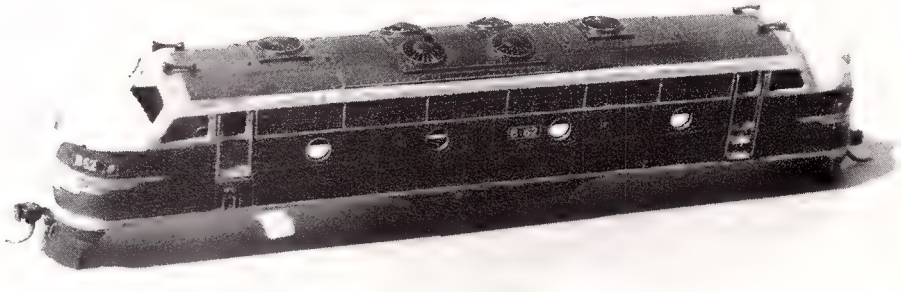


Rebuilt chassis showing twin motors and 'firewall' with headlight installed.

7.

This step is a favourite trick of mine which adds interest to any model, and that is lighted number boards, marker lights and headlights. Firstly, remove the headlight lenses by pushing firmly against the pips locating the lenses. File the pips off and put them aside where you won't lose them.

Now we get technical. There are two types of headlamps in use on the B class. There is the original and the twin, vertically mounted sealed beam type, as reproduced by Lima. An excellent photo of the two types is shown in "Diesel Pictorial" published by the ARHS (Vic. Division), National Library of Aust. Card No. & ISBN 085849020X — possibly held in your club library. Page 15, top photo shows B80 coupled with S301 passing B60. B60 still carries the original, while B80 has been modified. Now, depending on which number you elect to represent and which period (that is, pre-exhaust stack modification or not), don't modify the



The body — completed and painted.

lamp unless you do the exhaust, etc. etc. and vice versa etc., ad infinitum.

I'm inclined to think that it's best to find some detailed photos and select your prototype from these and stick to it, i.e. don't swap detail from one loco to another without being sure that that detail is actually on your model. I did B62 as she appears on page 21 of the above mentioned booklet. This photo also shows a good example of the observer's door steps, a later stage of this excellent model which you are building. I feel that I have digressed, but for authenticity, hasten slowly. Now back to our lights.

If you select the vertical type, all that is necessary is to paint the inside of the lamp matt black and glue the flattened (no pips) lens in place. Both ends, of course (unless someone knows of a B running around with a different light at each end!).

The removal of the pips and leaving the two holes is where the secret lays. When the grain of wheat (GOW) light is placed in its correct position, the ray shines as if through a tunnel, giving a diffused effect on the lens when viewed on an angle, but as she hurtles around a curve and comes straight on toward you, don't be blinded by the full beam effect.

(NSW 42 class modellers please note: the headlamps in this class should be modified to two beams, mounted horizontally.) For the original type — remove the back plate by filing the centre away, leaving a small ridge around the periphery, for the lens to glue onto. Simple, but don't copy my mistake by trying to drill it out, for two reasons. Firstly, the two existing holes grabbed my drill and nearly ruined the project. Secondly, I left nowhere to glue the lens.

Next, drill and file out the area inside the dummy number boards. Drill through the marker lights 5" scale diameter. File them flat firstly or your drill will run off. Shape up four lenses from clear perspex to fit snugly into each board aperture. MEK them in. The clearance lamps are done the same way. After final painting, and with a steady hand, number them accordingly using white, water decals of appropriate size and pick out the lens around the decals with black.

(Addendum: Since writing this article I have seen decals done in white on a black background, but have not managed to get any for myself.) *(Mn'J — Ed.)* You will find that the light shines through the numerals but not through the black — fascinating!

8.

Observer's door steps (this applies to your S class also). All that is required here is a recessed panel below the door, the same width as the door frame, but not as deep as the door, reaching down to the row of rivets, along the bottom skirt.

Remove the two cast-in handrails and replace them with wire, the full length, i.e. from the top of the door to the skirt. MEK two steps in place. The first immediately above the rivets, the second 1'3" above it. The third is actually the door sill.

Paint a silver kick panel above the two steps and across the bottom of the door. Don't be misled here; the driver's side doors utilise the staff exchangers as steps and the grab rails remain as cast, unless you prefer to change them to wire. The B class, being bi-directional, has two staff exchangers, so fill in the remainder of the observer's ones. While you have your filler, fill in the four side clip holes immediately above the four staff exchangers as these are redundant. Also fill the holes where the horns used to be. Remove the skirt from the two remaining staff exchangers.

9.

Find the horns that were so carefully put away for safekeeping. Drill the mounting holes for the horns. They are located 3'6" apart, i.e. 1'9" from the centre line and with the trumpet mouth of the longer one level with the start of the roof curvature above the windscreen. The horns you need are four single trumpets, two similar to the ones which were fitted on the rear of the shells. There's two — the other two come from the two clusters. Simply cut off the shorter of the two forward facing ones, taking the mounting pip with it. Now you have four (mathematical genius at work) — two long, two short! The longer ones are mounted on the right hand side.

On all Lima types there is a very handy paint line across the roof. The GM shows as a fine line under the red and is in fact a line of silver. What in thunderation has this got to do with mounting the horns, you ask? Well, you see, Mr Davis has a very cunning son and what he did was place a rule along the top of the body next to the lifting lugs, just the same as he did for the fan flats, but this time he went forward and marked the spot where the rule crossed the paint line!!! BINGO.

Now, lose the horns again because you don't install them until after you have finished the immaculate paint job. They remain black.

10.

Retrieve the perspex windows from the cast-aside bits. Mark a line across the front section of each, about ⅛" (actual) in front of the vee of the screen. Remove the nose sections. Back along the sides you will see that the thickness of the glass is reduced — this is for motor clearance. However, my experiments show that it does not, in fact, interfere on a layout with reasonable track curves. If your layout has tight curves, you will have to utilise these step-downs to accommodate the two motors and their gear trains. The object is to cut and join the two glasses to fit into the body in the same way as the original did in the S as purchased. Concentrate on getting the two screens to fit snugly up to the frames, front and rear. DO NOT glue them into the body. Also be wary of where you make your joins, so that the joins don't show through any of the portholes. Now, taking the cast-off blunt end glasses, cut through the curved sections by following the already existing slots.

By filing the curved section it can be made to fit under the windscreen in a similar manner to the dashboard and firewall of a car. Remove the globes from their respective holders and drill a clearance hole for the globe about ⅛" (actual) below the dashboard, through each 'firewall'. MEK the firewall-cum-dashboards in place, with the firewalls level with the now flat noses. Paint the inside surfaces of the dashboards and firewalls matt grey. Now, with the lights installed, we get reduced cab lighting and maybe the crew will be able to see where they are going at long last.

Finally trim the bottom of the firewalls level with the bottom of the window sides so that it will sit on top of the chassis.

WARNING — I would like to see the globes mounted higher and thereby lining them up right behind the headlights. But remember, these little globes can generate quite a bit of heat, which could melt the plastic. So, plenty of air space!!

11.

All that remains now is to fit the cow catchers. The couplers are best left until the chassis is finished so that it will be easier to get the correct height for them. Kadee No.5s fit perfectly, except that the rear of the drawbar box needs to be filed away until flush with the rear of the centering spring plate. This is to give clearance for the bogies to pivot freely. They mount immediately below the fluted bump bar.

AMRM February 1982 just to hand. Thanks, Phil Jeffery, if I might quote you: "... the coupler pocket ... On the prototype it is a larger opening which extends up to the bottom of the curvature in the body." Refer front cover of the aforementioned 'Diesel Pictorial'.

12.

Painting and detailing is up to you, the reader. I used Humbrol on my first model (B62) which was standard VR blue/gold. My second (B80) is one of the Orange blossom specials. On the other (B64) I used Polly S Reefer Orange, which I'm led to believe is the actual colour used by the designer for his original design tests. Personally I think VicRail got a bargain price for Ansett's reject paint stocks.

13.

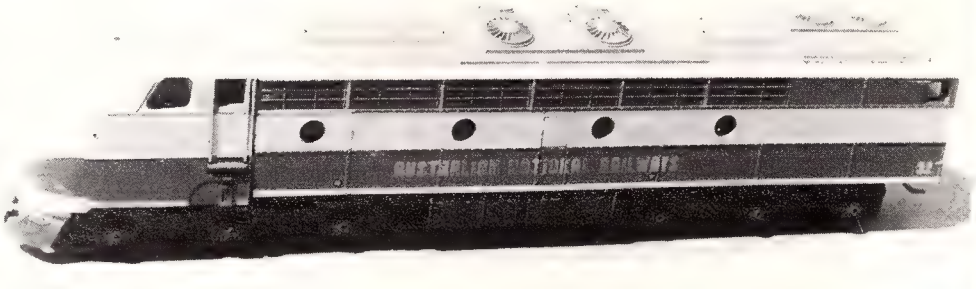
If you intend to mount only the one motor, all that is required is to round off the square end of the chassis to a similar shape as the original No.1 end. Completely remove the Lima coupling and drawbar and assemble the bogies as in the original. But to improve slow running and power I advise that you consider the modification in Step 14 and 15.

14.

By studying the photograph of the chassis, the method used should become obvious. You require the two motor mounting ends. So, firstly, remove the motor end by cutting through the tank sides, following the angle of the tank end. On the second chassis, cut through the side-frames and remove the round end, once again following the angle of the tank. This will give you the required motor ends — one with the tank attached, the other with only a tank end attached.

Now, carefully surface grind (Surface-plate and 240 wet and dry) the two tank ends until the two thicknesses equal the total thickness of the original. There are obviously other ways to achieve this but I did it this way to maintain the original strength of the material.

Be very careful to check for straightness, etc. as you go. If done carefully you will find that any join mark visible after gluing will be unnoticeable. To finish off correctly, there should



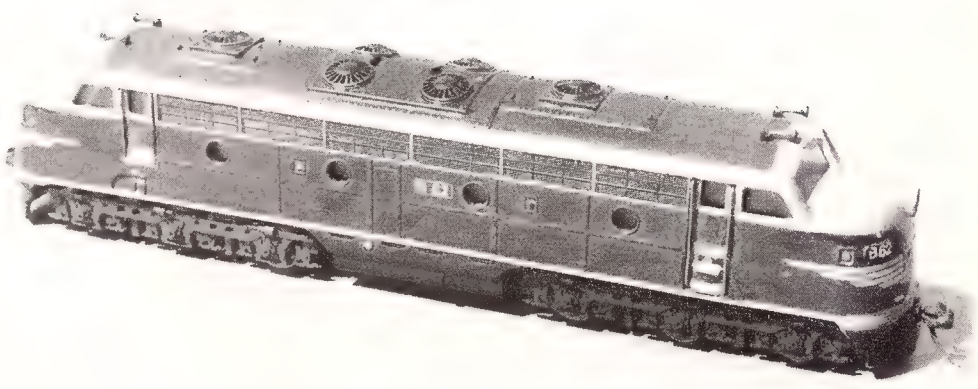
A Hornby nose is attached to the spare No.2 end.

be a separate box-like structure built over the No.2 end of the tank. I did this on my second model but this I consider to be super-detail and is up to the individual modeller. Finish the chassis by rounding off both ends to within about ⅛" of the bogie slide. (i.e. Leave a step, just forward of the slide, for strength.

15.

This step refers to both bogies. Remove the two screws which retain the bogie sideframes and expose the three axles and pick-up wipers. Remove the centre axle, by pulling the insulated wheel off its axle and drawing the axle through.

Drill a small hole, large enough to allow a hook-up wire to pass through the bogie frame, just forward of the rear axle (i.e. next to the tank) and to one side (see Fig.4) making sure that the hole clears the centre web and the motor. Next, cut a thin strip of celluloid or similar insulating material approximately 1¼" long and wide enough to fit snugly into the bogie frame between the wheels and over the pick-up wipers. Manufacture a single-ended wiper (see Fig.4). Solder a hook-up wire of approx. 3" (actual) length to the thicker end of the new wiper, and pass the wire through the new hole. Araldite (5 minute) the new wiper in position so that the wiper end will contact the centre axle when installed. Install the centre axle from the OPPOSITE side to which it was withdrawn, i.e. the insulated wheel must now be on the non-insulated side of the bogie. Ensure that the new wiper is contacting the axle and that it cannot contact any other axle or the other wiper. Trim the new lead to a reasonable length (allow some slack) and solder to the brush holder which will be furthest from the tank end. Be very cautious of extreme heat as you are working around heat sensitive plastics.



Fully assembled — B62 is ready for service.

Remove the Lima coupling completely from the bogie and install the motors in their respective mounts. Take note that there is a clearance in each mount, on one side, for the gear train. What we have done is spread the pick-up points (wheels) over the full length of the loco and not just over the length of the bogie. If you study the schematic circuit drawing (Fig.5) this should become clear. This can be a big help in standard Lima set-ups too. Next, solder two flexible wires between the motors; one from the same brush holder where the new bogie pick-up wire is. The other end to its opposite number on the other motor. See wiring diagram. Make sure that you use a good quality flexible wire and allow plenty of slack to allow the bogies to pivot freely.

16.

Wire up your headlight globes by soldering one wire to each brush holder and then to the globes. Or one step further, by adding a diode to each globe circuit, you get bi-directional lighting.

Test run results (B62) proved incredible.

This little beauty pulled four MBE, two TAM, eleven Indian Pacific, seven Overland coaches, one MHO (extremely heavy in itself), two 8300 and one scratch CE van. All on half throttle! Out of curiosity, I coupled my Athearn powered GM to this consist and at full throttle she couldn't shift it. At the Bendigo Model Railroader's exhibition held over the Easter weekend, she pulled 76 assorted bogie trucks and wagons. So I hope you will be as pleased with yours as I am with mine. ▪

B62 and many others like it can be seen running on the Corio Model Railway Club layout and at the clubrooms.

IMPROVING THE LIMA 44

By Barry Wood

Over a number of years now I have been disappointed with the pulling power of my Lima 44s, particularly on hills, and have now put pen to paper to tell you how I have improved them, or at least attempted to.

The first thing I tried, as have most 44 owners, is to add lead weights. With this I had varying success, depending on where I put the lead inside the body.

Then I tried making one double motorised chassis from two and converting the motorless one into a dummy. This gave me about a 300% increase in pulling power with a lot of heavy weight, and a 350% increase with less weight. This indicated to me that weight isn't always the way to increase pulling power but driving multiple axles is. This suffered from one defect — the motors ran at very slightly differing speeds giving problems, especially on Peco points. Improving pickup did improve the system slightly. I had used a Mehanotehnika chassis/bogies, etc. to power my 45 class and felt the system worked well, although a trifle fast. So I investigated this for use under the 44. The improvement in both performance and pulling power was tremendous. Here is how I went about it.

Remove the Lima chassis (don't throw it away — it may come in handy one day). Remove the two weight and chassis holding lugs from the centre of the body. Cut about 110mm from the middle of the sides of the window glass and glue (using Selleys Handygrip) the front and rear windows in place. Set aside to dry.

Chassis

Take the Mehano (Alco) chassis and trim off rails and steps and remove motor and bogies; trim off 1 to 1.5mm from both sides along entire sides (just behind the raised portion). Lay chassis on a flat surface and file down the weight, holding lugs until level with chassis ribs.

Measure and mark the centre. Measure 29mm from this mark towards each end and cut chassis at these points to give a 58mm long centre piece with motor holding section intact. At each end there is a small square hole; cut the end off at the edge of these holes nearest the end.

Measure 67mm in from each end of the chassis and mark and cut, throw away the section removed but keep the end pieces. These centre and end pieces are now glued together and reinforced with 2mm thick styrene card with two long pieces on top either side of chassis and pieces under chassis across joint. This should be set aside to dry at least 24 hours. If longer than 192mm, file each end evenly until 192mm long.

Body

Attach pieces of Styrene card (2.5 to 3mm thick) into the nose and below the rear window onto the rear door on the inside to act as chassis supports. Glue a double thickness of this card on the sides of the body about where the motor will be and set the lower level of all these pieces 6mm from the lower edge of the body. Set aside to dry.

Drive System

Very little needs to be done to modify the drive so don't be scared off by having to change it.

Reassemble the motor into its correct position. Cut one of the drive connecting rods in half and file the rough ends slightly round. Apply a small drop of Handygrip to the end and push into motor end of universal joint — not all the way yet. Put bogie in place and connect up drive — it must be free to move on the drive end but rigid in the motor end. Repeat with other end.

Now — nearly there — cut the rounded top off the bogie retainers and glue a piece of styrene in place across the cut — set aside to dry. When dry, just clip them in place.

Assembly

The chassis should now fit into the body with only minor filing to ease rough edges. Add some lead weights to bring the weight to an acceptable level — with the Mehano drive system I have found that less wheel cleaning is required if the weight is high. (I think that the weight stops jumping and arcing.) All that is required is to build the fuel tanks. This I did by copying the Lima one but expanding it to 40mm long and 16mm down from the chassis. I feel a better one could be made by using actual cylinders made from knitting needles and card.

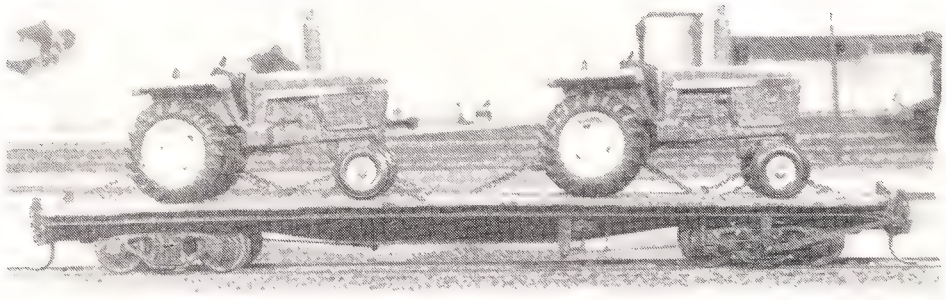
Good luck with your kit bashing. ▪

MODELS FROM THE WEST

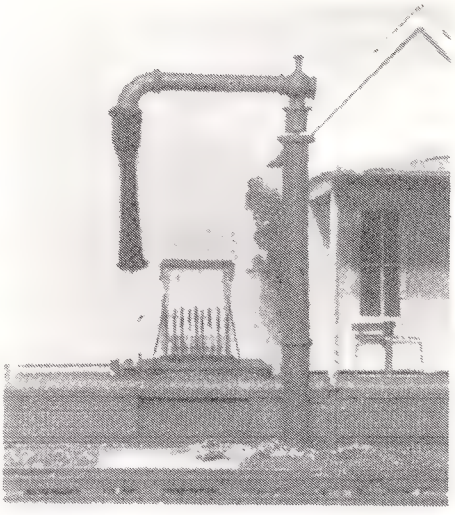
Les Hayter and Lynton Englund

Presenting Sn3½ scale models, built by modellers associated with the 'York' layout. This issue, rolling stock and structure models built by Les Hayter and locomotives built by Lynton Englund are presented.

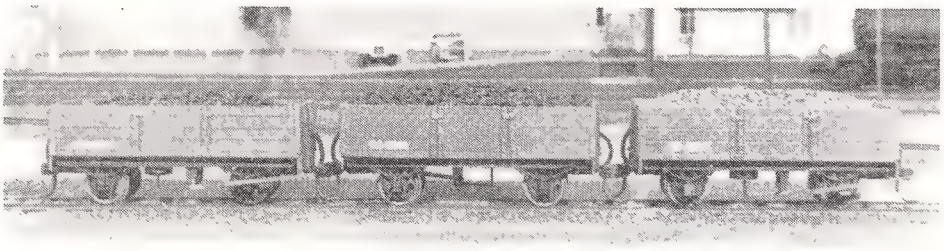
Photographs by Bob Gallagher.



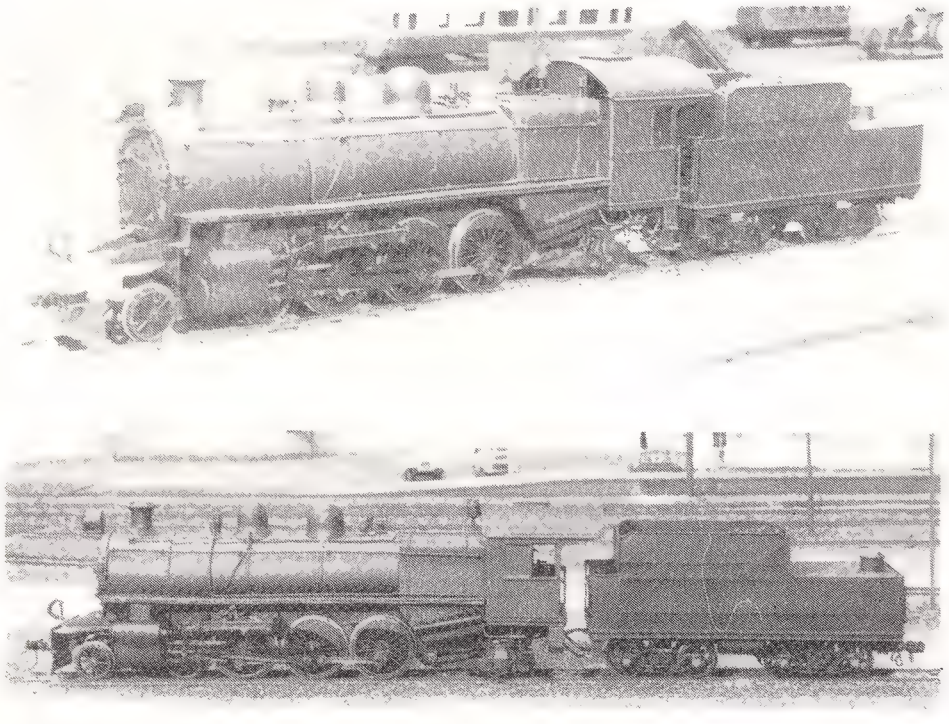
This QCE flat wagon has been scratchbuilt except for couplers and wheels. The underframe is cast in resin and the timber decking is built up from Northeastern timber. Note the realistic look of the individual deck planks; these have been treated with Jarrah timber stain and lightly painted over with grimy colours. The ERTYL tractors have had their canopies removed to give them an older appearance.



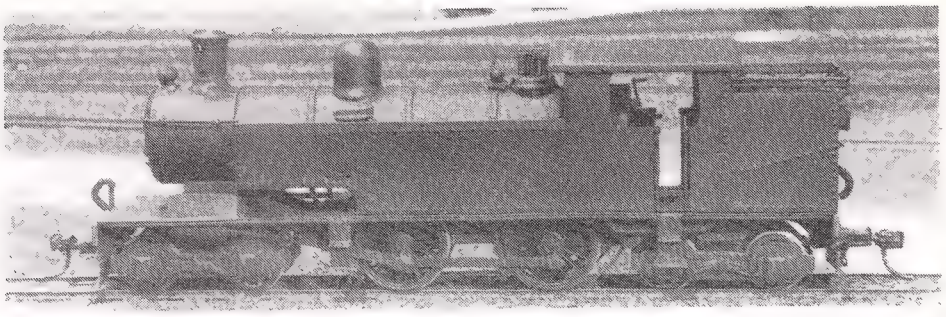
Not all of Les's work is rollingstock. This miniature scene is part of the model of York Station (WA) . The station and platform have been constructed from Northeastern timber, card and aluminium corrugated iron using plans of the original platform and photographs of the building. The open air lever frame, weighbridge and water column lend a realistic effect to the scene.



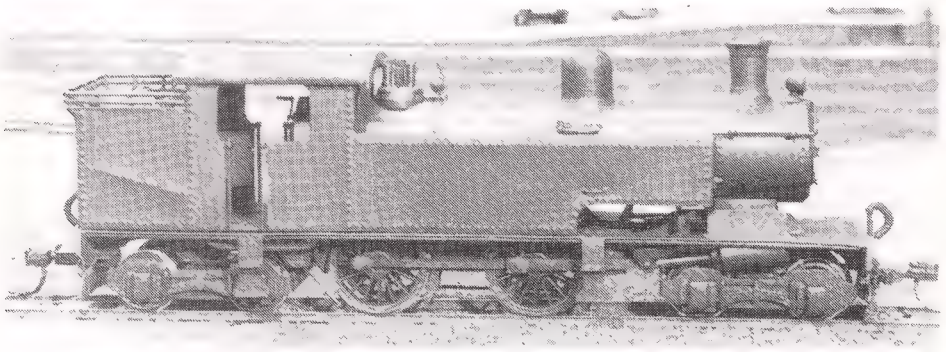
A trio of GC open wagons, the one on the left with a five digit number indicating that it was an ex-Midland Railway wagon. Sides, ends and underframe have been manufactured from casting resin using silicon rubber moulds. The brake levers connected to the vacuum cylinders add a realistic touch. All were airbrushed with Floquil Box Car Red with a touch of Engine Black and Yellow added. Light weathering of the black underframes rounds off the effect.

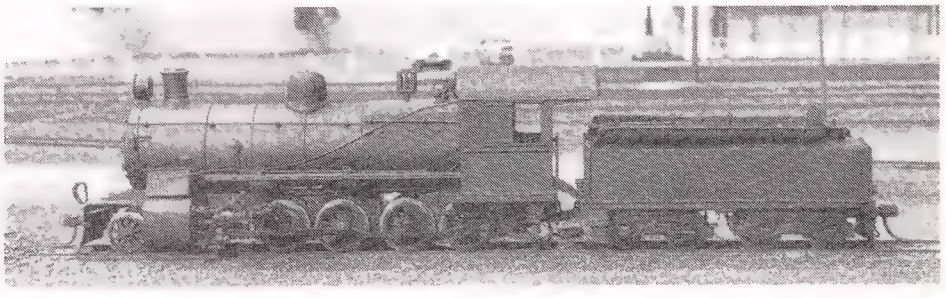


The P class was the first of three similar classes of WAGR Pacifics, the others being PM and PMR. These versatile engines were used in all classes of traffic. Lynton scratchbuilt this loco from brass using similar methods to those for the N class. Of particular note are the well-detailed fabricated bogie side frames, valve gear and rods.

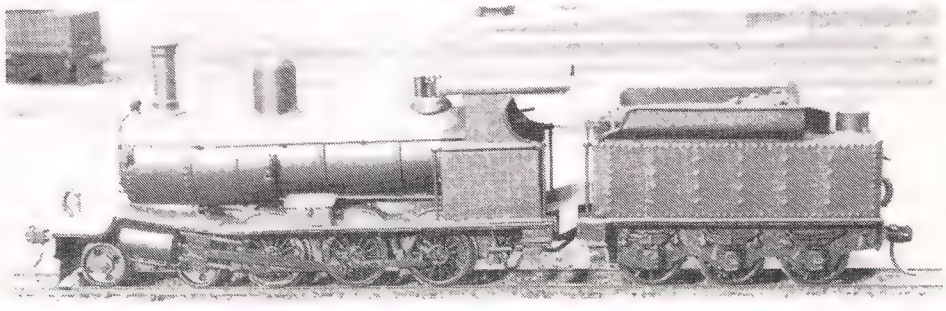


A WAGR N class suburban tank engine scratchbuilt from brass. The boiler tanks and bunker were formed from brass sheet, while the chimney and dome were turned up from brass rod. The only items purchased were wheels, motor and gears, and couplers.





This model of an F class 4-8-0 certainly portrays the big boiler low drivered effect of the prototype. This loco, like the others, was scratchbuilt from brass except for a few items. Livery is flat black with clear lacquer finish.



WAGR 'Bogie G' class. Some of these locos saw service on the North Australia Railway during WWII and are of the same general design as 2-6-0 engines which served in WA, SA, NT and Tasmania. Except for some purchased items it has been scratchbuilt from brass, with the tender axle guards being cast in epoxy.

ADVERTISING ON WAGR VANS

by G.R. Watson

The articles in AMRM on the Victorian Railways advertising vans, and then seeing models of these vans during a visit to the East, has inspired me to investigate similar vans operated by the WAGR during the 1950s through to the early 1970s. Unfortunately, detailed information has been difficult to unearth, especially in relation to the number of vans so adorned, the dates such advertisements were applied and the range of advertisements.

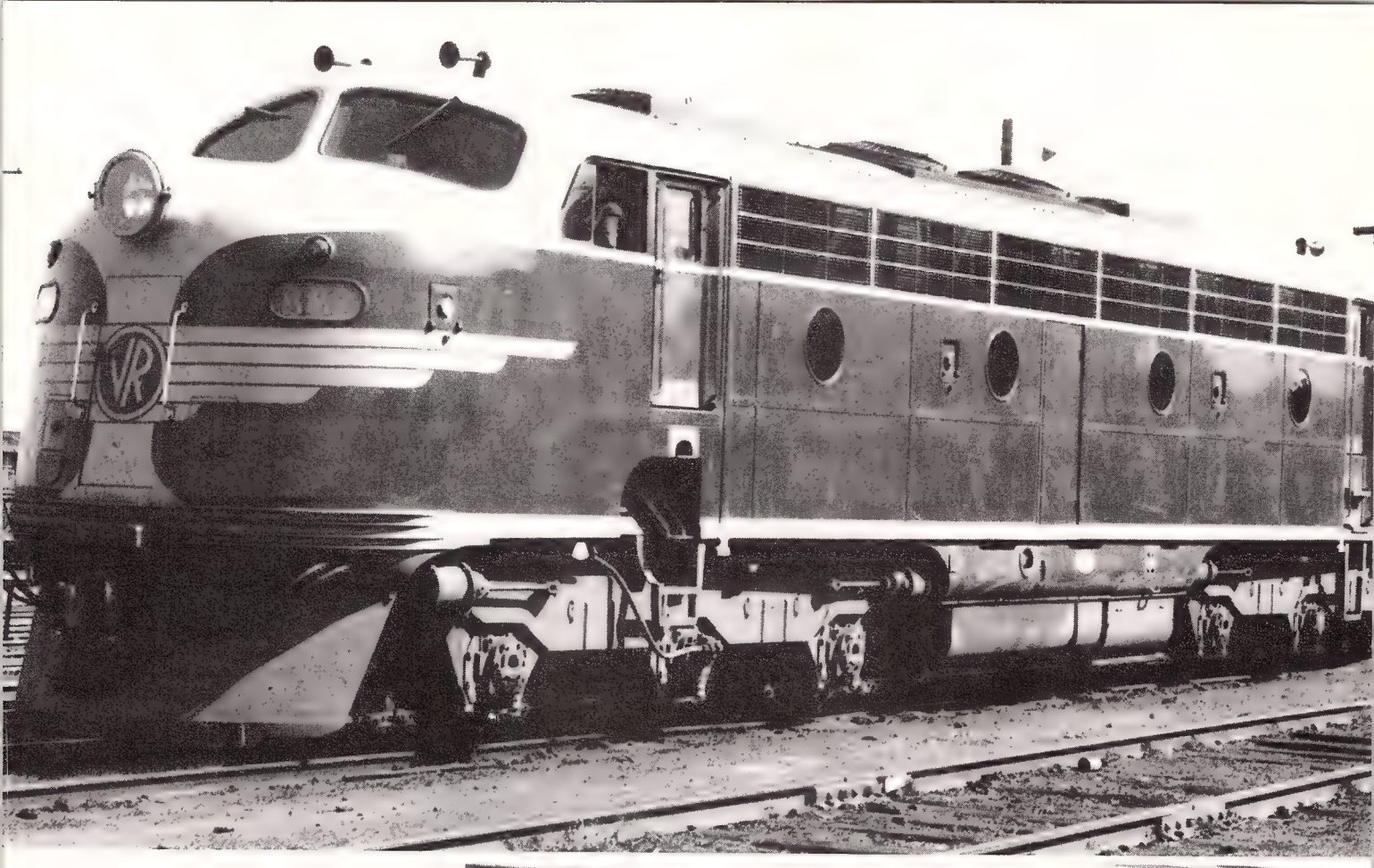
To date, photographs have been obtained of seven different advertising vans, while documentary evidence has been found about another three.

If any reader can supply any information on this subject, please contact:

G.R. Watson
20 Wynne Street,
Hazelmere, 6055

(or AMRM, or both) so this interesting facet of railway operations in the West can be fully documented in a future issue of AMRM. ■

The slide depicts WAGR van DA 13307 in the Midland yard on 1/1/71. Photo by G.Watson.



In March 1953, when less than a year old, B62 was photographed by a VR photographer. Special things to note in the photo are the fabricated bogies and the lack of number plate on the side of the body. (VR photo RS1026)

B class (B63) 1965 style at Bendigo. The fabricated bogies are now well past their million miles and have been replaced by cast ones. The number 1 end of this loco is at the left of the photo. External features which identify front from back are the roof fans which are towards the number 2 end, whilst the number plate and battery box are towards the number 1 end. (Phil Jeffery photo)

THE B CLASS

Prototype Notes

by Phil Jeffery

From their first entry into service on 14/7/52 until the day that the last one is scrapped, the B class locomotives will always be favourites with most followers of the Victorian Railways.

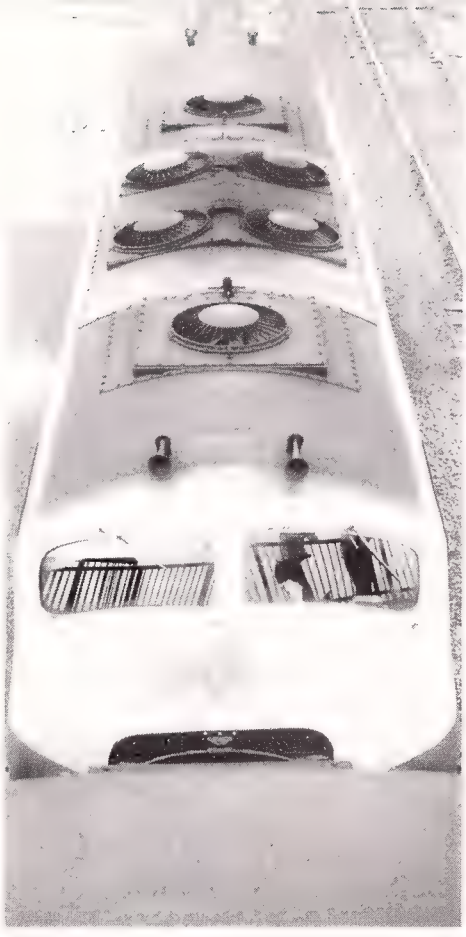
Their twin cabs make them ideal for model railways, exactly the same reasons for which they were designed. Instant turnaround, versatility, passenger trains, roadside goods or a jet — they were all a task for a B.

This is not the place for a detailed treatise on the class — it would fill a whole issue, and has already been done by Peter Bermingham in his book 'The ML2 Story'. I recommend this book to all who wish to learn more about the B class locos.

Built by Clyde Engineering Co. Pty Ltd, New South Wales, 1952/53.

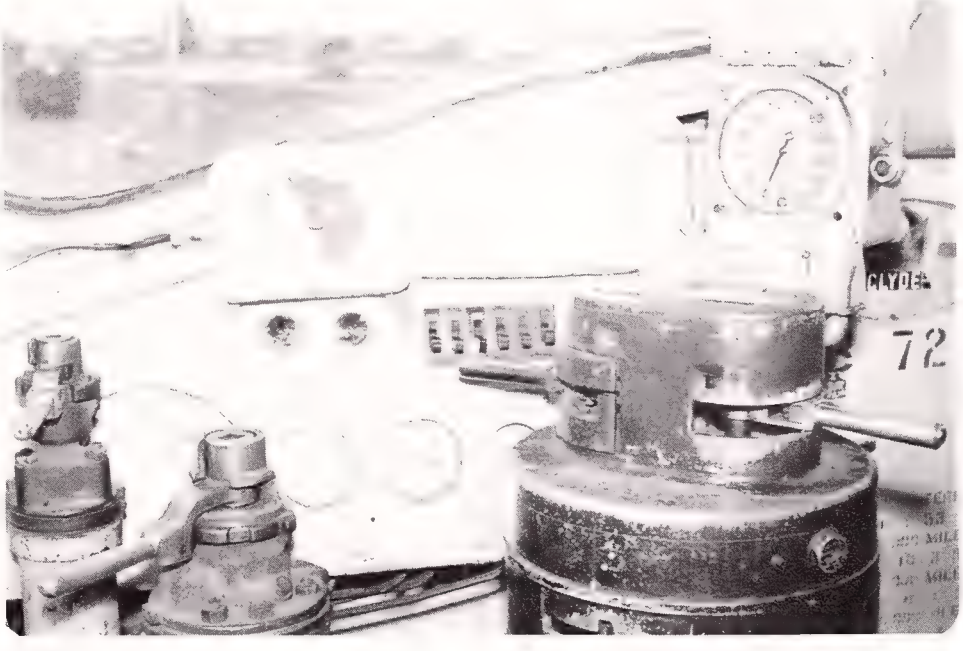
Technical details from Power Parade, 1954 Edition. ▪

B85 at Spencer Street on 1/10/82 shows off its flexicoiled bogies and twin sealed beam headlights; this is the most modern that a blue B can be. (Phil Jeffery photo)



Roof details of B76 at Werribee on 26/10/82. The position of the fans towards the number two end can be seen, as can the water filler pipe just forward of the nearer dynamic brake fan. Positions of air horns, roof hatches and exhausts are also shown. (Phil Jeffery photo)

This photo is all the proof that modellers need to run a B with other motive power. Pictured above, B60 fitted with flexicoil bogies heads a flat-top T and a smoke belching R class on a tarpaulin covered wheat train.



The driver's controls of B72 at Sale in 1965. I will let you identify all of the cab fittings for yourselves. (Phil Jeffery photo)

To celebrate 100 years since the birth of Harold W. Clapp, B60, which also carries the name of this famous Victorian railwayman, was adorned with a special headboard for festivities. Photographed at Spencer Street May 7, 1975.

More photographs on page 38.

B80 heading an up train of country cars across the magnificent Malmsbury viaduct in July 1965. Photo Phil Jeffery.

B63, in original blue colour scheme, was photographed in August 1963 at Dynon Loco depot. In this 'straight out of the shops' photo the glossy sheen of the blue can be seen. (Phil Jeffery photo).

A heavily weathered B61 at Werribee on 26/ this time. The dynamic brake fan on the roof i this photo with that of B63 (page 35) for deta brass to a black and white painted cast one. the sides and the paint scheme has been mo the cab door

This shot taken at Spencer Street in November 83 shows that running on new N car sets was not the sole domain of orange Bs. Note the evidence of oil based weathering along the roof line. This shot should be compared with the photo of the tangerine B81 to note the changes introduced at this time. (Phil Dunn photo).

B76 in the now familiar V/Line colours of or from Spencer Street in Se

Above: *A new name for Victoria's state railways, and a new paint scheme for B84. The new paint job did not stop B84 from being rostered for out-of-town jobs as this photo of the loco with an S at Klunder's Hill near Charlton shows. This is the only B to carry this overall orange paint scheme. As of September 1985 this loco had been repainted to the standard V/Line Orange and Grey. (Steve McElroy photo)*

Right: *A71 (ex B71) photographed at Bridgewater in South Australia on 7/3/84, whilst engaged in load trials from Dry Creek to Tailem Bend and return. This photo clearly displays the attractive V/Line livery. (Phil Dunn photo)*

Cast bogies again but from the number 2 end up with the rear edge of the cab door. Compare ges. The number plate has been changed from e skirts have been removed from the bottom of The yellow has been extended back to include l Jeffery photo)

B81 at Dynon in the orange and silver scheme. This photo is of the same end as (blue) B78 for comparative purposes. Apart from the colour, note the location of the Vicrail symbol and the necessary relocation of the number plate. The location of the battery box shows the identity of number 1 and 2 ends. (Phil Dunn photo)

nd grey heads a down passenger to Geelong er 1985. (Phil Jeffery photo)

Tangerine B69 has just arrived from Geelong in September 1985 and was awaiting clearance to Dynon when this photo was taken. Note the location of the number plate compared with other photos. (Phil Jeffery photo)

A73 (ex B73) at Dynon. Five chime air horns, double sets of windscreen wipers, different marker lamps, the nose door and associated handrails have been reorganised. (Barry Moore photo)

To commemorate 25 years of mainline diesels in Victoria, B60 was transferred to the standard gauge during July 1977. Here it is complete with special headboard and gleaming paint job on 14/7/77. (Lance Cross photo)

Technical Details — Nos. 60-85

Weight (fully loaded):	111 tons 12 cwt
Tractive effort, starting:	60,000lb
Tractive effort, continuous:	40,000lb
Speed at continuous rating:	11mph
Maximum permissible speed:	83mph
Gear ratio:	59:18
Number of driving wheels:	12
Adhesive weight:	100%
Wheel diameter:	40"
Fuel oil capacity:	1,000 gal
Lubricating oil capacity:	165 gal
Cooling water capacity:	185 gal
Bogie centres:	34'
Bogie rigid wheelbase:	13'2"
Minimum curve radius:	5 chains
Length overall:	60'10"
Height above rail level:	14'
Width overall:	9'9"

A73 again to show more changes. A new centre section to house the new turbo-charged engine. This shot shows the other side of an A class engine compared with the shot of A71. Note the different grill areas and the number of porthole windows. (Barry Moore photo)

THOUGHTS ON BACK-DATING the VR U VAN

This article is entitled 'Thoughts' because, like all good armchair modellers, I haven't actually done any work on this project. I like pondering over problems and occasionally attempt some practical trial-and-error solutions. Of course, if one can find a solution, the task is obviously beneath one's ability. Naturally, if one cannot be found, the task is impossible anyway!

Back to the U van. A happy juxtaposition of AMRM articles occurred one night when I was occupied with the artwork for the NZL decal (to be released at a later date by Broad Gauge Bodies). One article contained photographs of four and six wheeled U vans and the other, a review of a UB van kit by Ted Charlton who advocated the construction of a new underframe instead of modifying the parts supplied. The thought occurred to me that, if I wished to buy two kits, I could build a UB and a six wheeler simply by carefully removing the W frame and springs from the UB's discarded underframe and gluing it centrally between the W frames of a four wheeler underframe.

Inspection of photographs show that some U vans have heavy springs like the GY, which makes me wonder if the mouldings are of the 15 ton capacity van. Not that it matters as six wheelers had light springs anyway.

The arrangement for the central wheel set could be one of two methods:

1. Assemble the central wheel set as for the other sets, after fitting pin point bearings, as in the manufacturer's instructions for the four wheeler construction.

2. Alternatively, use a brass bracket as was used in the McBee's Z van. Holes or slots would be made in which the wheel set, minus the pin points, are set to run with a large amount of side play.

Having whetted your appetites for six wheel U vans, I hope to see some photographic results in future AMRMs, but don't hold your breath waiting for my efforts.

Roger Johnson

SCENIC ROUTE

A feature of the modelling competition at the 1985 Camberwell exhibition was the diorama by Carl Segnit which won the Best Structure award. **SCENIC ROUTE** brings Carl's work to AMRM readers again, but this time in colour. More photos of the structure can be found on page 33 of the June 1985 issue.

This ¼" scale diorama depicts Crowes railway station, the end of the line of the VR 2'6" narrow gauge line from Colac. The NC brakevan was scratchbuilt from scribed siding, card and stripwood and finished using wire, various 'augmentable' detail parts, Roundhouse Fox bogies and Kadee couplers.

The station was built from scribed siding, corrugated card and brass gutters and downpipes. A plastic brick sheet chimney (making sure that the edges are chipped) and a double-hung window comprising fifteen pieces complete the structure. The delivery van is a Matchbox 1927 Talbot suitably detailed and weathered.

Photographs by Peter Russell.

EVER READY
CROWES

New South Wales BKX Car Carrier

by Garry Kahler

The modern motor car, being mass produced, requires rail transportation between manufacturer or importer and major distribution points. Lima have given Australian modellers one of these specialist use wagons but with Mercedes Benz cars.

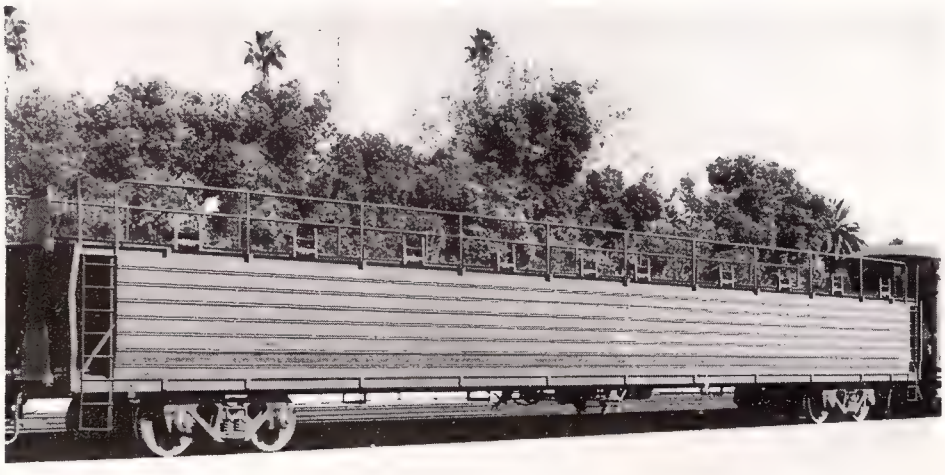
Each State has its own motor car carrying wagons. Each type is different. Most carry cars for the Australian market and very rarely Mercedes Benz. In this article I will describe one method for converting the Lima car carrying wagons and their Mercedes cars into a reasonable resemblance of each type of NSWSRA NMKX (BKX) with 'Australian cars'. This method can also be used to make any of the long car carrying wagons of the other mainland 1435mm/1600mm gauge rail systems.

Enclosed Side NMKX

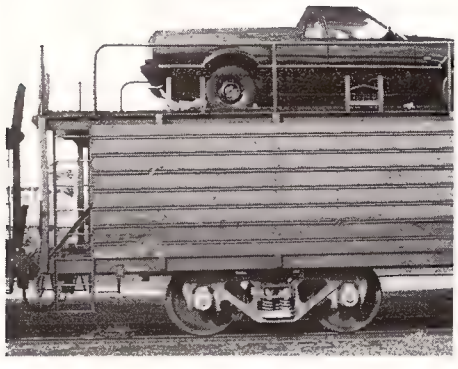
I will start with the NMKX with enclosed sides. These wagons were originally built to carry incomplete car bodies. Lately, though, they have been pooled with other car carrying wagons to carry any form of motor vehicle as required.

For this exercise you will require one sheet of 0.010" plasticard, one sheet of 0.020" plasticard, plastic solvent, epoxy filler (such as 'Panel Metal'), lead, a steel rule (30cm long), Stanley knife (with a sharp blade), Roundhouse roller bearing bogies and wheels, couplings of your choice (preferably long shanked) and a lot of patience.

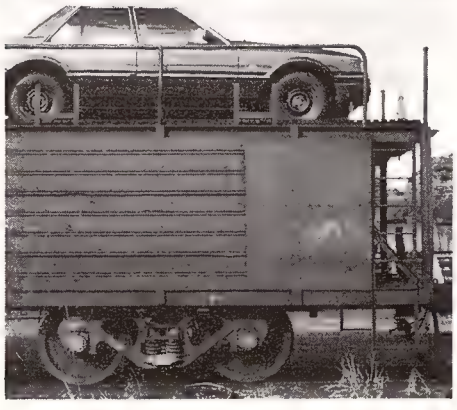
BKXs at Broadmeadow in 1985. The open version is on the left. Note the sheet of plain panelling in the centre of the side. Photo by Peter Sansom.



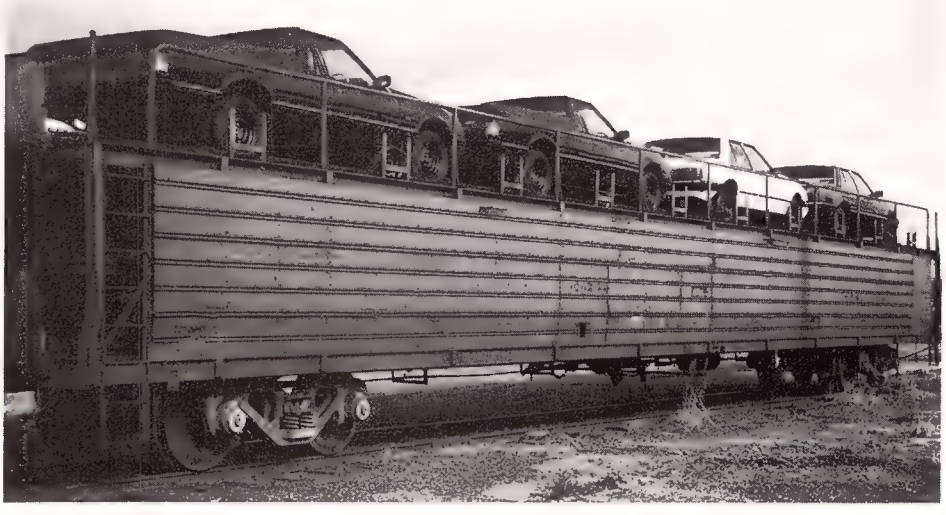
Enclosed side on BKX on Victorian Railways broad gauge bogies at Mildura, 1980. The kink in the endpost is the result of an accident. Photo by John R. Page.



End section of BKX 11851. Bob Gallagher photo.



Repaired end section of BKX 11851. Bob Gallagher photo.



Loaded BKX 11851 on WAGR standard gauge bogies at Clapham (Queensland) yard, May 1985. Photo by Bob Gallagher.

1. You will find that the top deck of the Lima VMPY can be removed by carefully prising the top of the sides apart with a small screwdriver. Be very careful how you remove the deck so as not to break the sides.

2. On the top deck are four Mercedes cars and on the lower deck are two more, all of which are fixed to the decks. These can be left in place or they can be removed, if desired, so that they can be worked on more easily. If you do remove them then prise them off very carefully by using a small screwdriver under each car, acting as a lever.

3. If you are satisfied with Mercedes cars, then simply repaint those on the car carrier. If you are NOT satisfied with Mercedes cars, as I wasn't, then they can be patched up to resemble something else. Carefully file off the radiator grill then cut out a piece of 0.010" plasticard so that it covers the bonnet of the Mercedes from the top of the mudguard on one side to the top of the mudguard on the other side and from the front of the bonnet to just in front of the windscreen. In other words, we make the bonnet flush instead of depressed.

4. Fill up the gaps between the old and new bonnets with epoxy filler (such as Panel Metal). This may sound like a body work repair and it is somewhat. Allow the epoxy to set, then file up smooth.

5. You can now paint on a new radiator grill, headlights and bumper. Each car should be similarly treated. Give each car a coat of gloss enamel either all the same colour or a different colour for each one. I have 18 cars in 16 different colours and they really look good.

6. The two cars from the bottom deck can be placed back on the outer ends of the deck (one each end) if desired, or you can put them aside for a second car carrying wagon.

7. In the centre of the bottom deck place a large piece of flat lead, weighing approximately 120g, for weight. Glue in place.

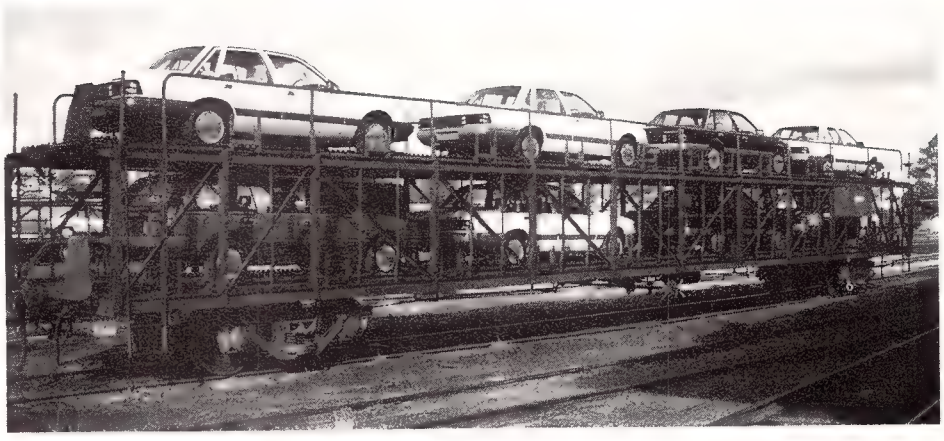
8. The top deck should be refitted with four cars, if they were removed, and the top put aside while the sides are filled over.

9. The Lima VMPY is two scale feet short for the NMKX (BKX). Considering the length of the vehicle, though, I felt that this was near enough. So measure the height of the body side overall, then measure the distance between the insides of the steps along the length of the vehicle. Both these measurements should be made on the model.

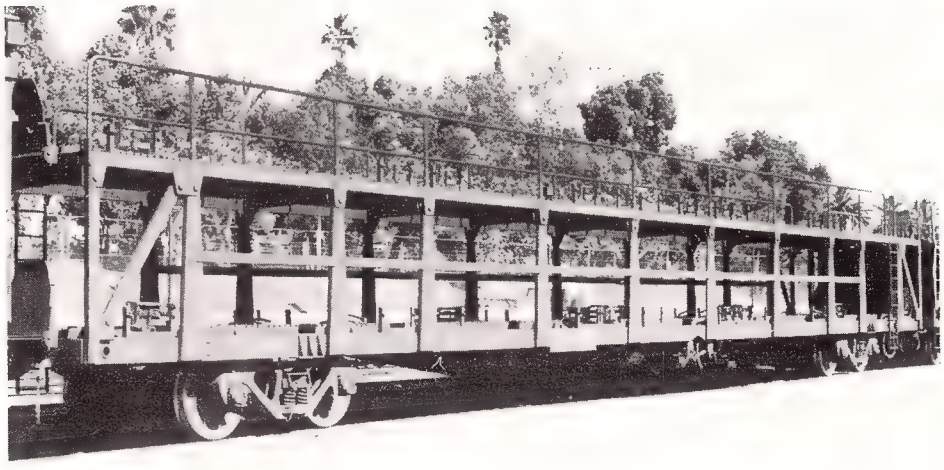
10. Mark out very neatly and squarely two pieces of 0.010" plasticard to the dimensions just obtained at Step 9. Carefully cut these out, making sure all edges are straight. This is very important as these two pieces form the cover on the sides of the wagon.

11. Place each piece against each side of the wagon. If you are not happy, or if there are any gaps in the top or bottom or of either end (leave the steps showing) then DISCARD that piece and cut another. When you are satisfied that you have a good square piece for each side, glue with solvent to the top and bottom and all uprights. Use the solvent SPARINGLY and allow to thoroughly dry before handling.

12. This step requires a lot of patience and should NOT be attempted in a hurry. You will need to cut 16 strips of 0.010" plasticard 0.5mm wide and the length of each side piece. You may prefer to buy micro strip but that would add to your costs. When cutting these strips, make three or four even, continuous, light strokes of the knife against a steel rule and ensure that each strip does not curl. You may prefer to make a few practice runs, first, on a piece of scrap plastic. Make sure, though, that you take the same amount of time and effort with each strip and DO NOT attempt to hurry. If any of them do curl like a spring, then throw them away. They can be cut even and flat if you are careful. One trick is to cut through the middle first, leaving the two ends attached

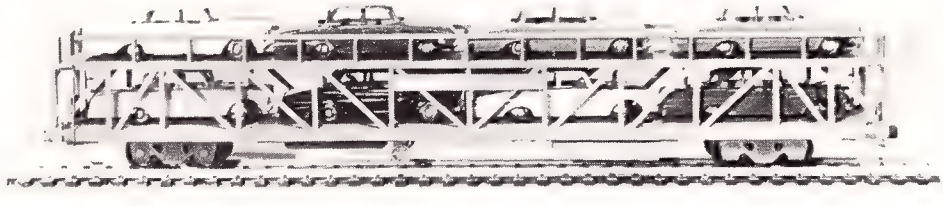


Open sided MNKX at Clapham Yard, May 1985. Bob Gallagher photo.

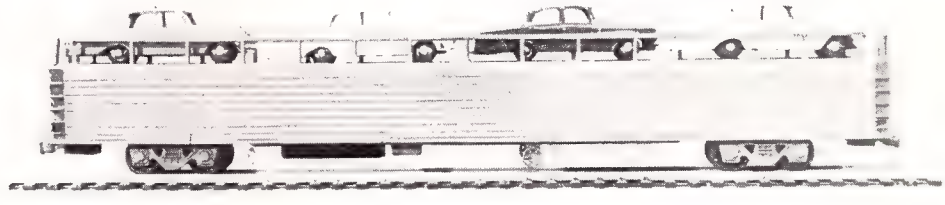


Open sided BNX (NMNX) car carrier at Mildura in 1980. This wagon differs in construction style from the BKX series. Photo by John R. Page.

VR VMBX enclosed sided car carrier at Mildura in 1980. Photo by John R. Page.

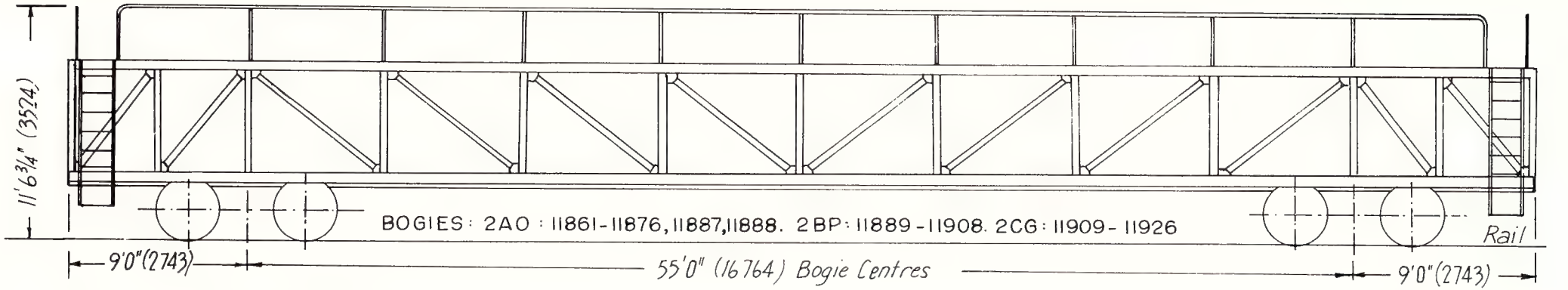


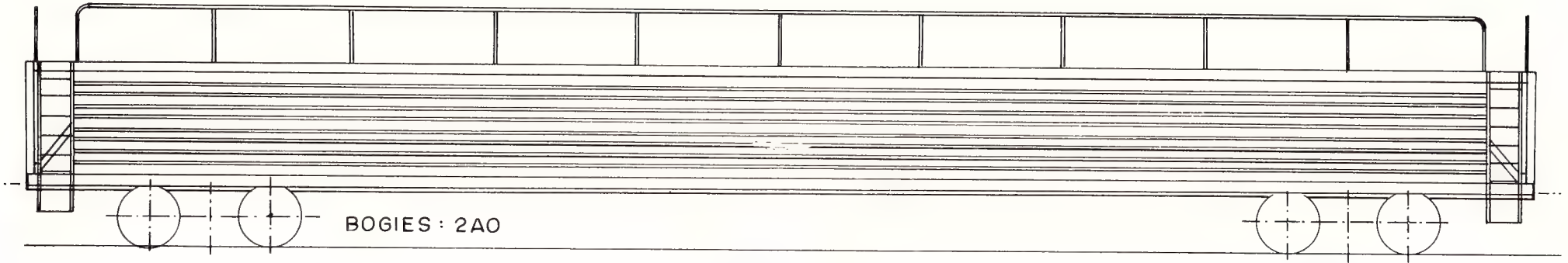
Open sided BKX — the model



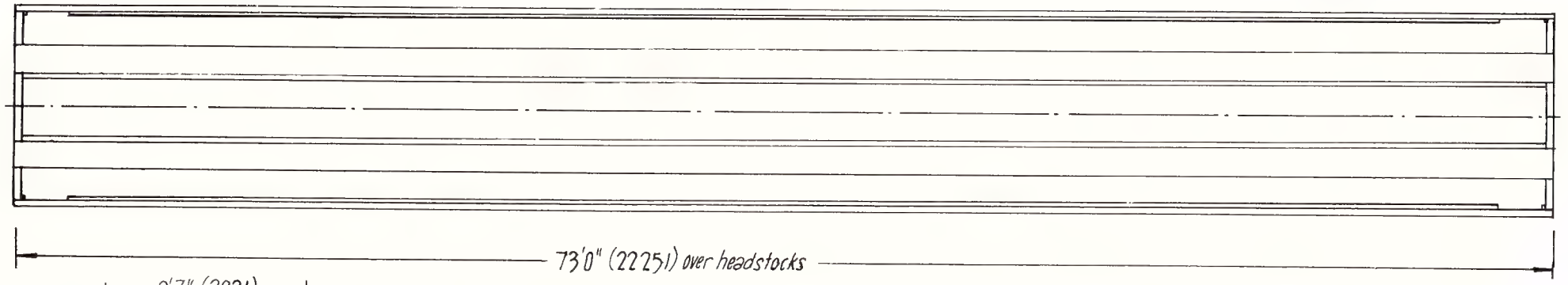
Enclosed sided BKX — the model.

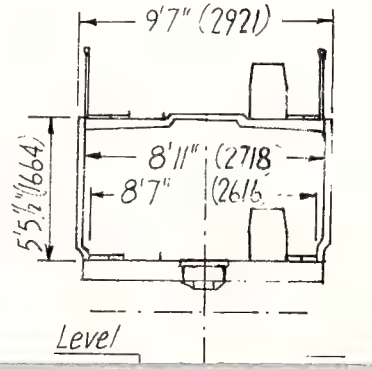
OPEN SIDE VERSION NMKX 11861-11876, 11887-11926





ENCLOSED SIDE VERSION NMKX 11851-11860, 11877-11886





Sketch of SRA of NSW NMKX
(formally BKX)
Motor Car Transporter
(showing overall dimensions)

DRAWN: Garry Kahler

to the remainder of the sheet, then nick through the ends with the knife last. This way the plastic does not tend to curl away as you cut through it with the knife.

13. When you have cut all 16 of them mark each side panel with eight equally spaced lines, from the top to the bottom, along each side of the wagon.

14. Very carefully glue one strip over each line and ensure that it is straight. Remember, take plenty of care and take your time. Glue eight strips to each side.

15. Next remove the Lima bogies. You may wish to obtain a pair of Lima Bettendorf bogies which will just clip into the holes from whence the other bogies came. If you do this then go to Step 19.

16. If you wish to use Roundhouse roller bearing bogies, then cut two pieces of 0.020" plastic 10mm square. Drill a hole in the centre of each piece large enough to take an 8BA bolt.

17. Attach your new bogie to the square of plastic with an 8BA bolt with the nut holding the plastic onto the bogie.

18. Adjust the screw to allow the bogie to turn freely but not too loosely. This assembly should then fit over the Lima mounting on the underside of the wagon with the NUT inside the hole. When you are satisfied that all is square, glue the square of plastic to the mounting under the wagon.

19. You may now fit couplers of your choice to each end of the wagon. These should be, if possible, of an extended shank type to accommodate the length of the car.

20. Paint the entire body and top deck black, grey, blue or Indian Red, then code and number in white lettering in the centre of the body sides. Numbers for this type include 11851-11860 and 11877-11886.

21. To finish off, replace the top deck back into the sides, making sure that the sides clip back into place all around.

Open Sided Version NMKX
and similar VR, ANR, SAR and WAGR Cars

22. Remove the top deck as described in Step 1. Carefully remove all six cars and place aside. These may be remade as described in Steps 3, 4 and 5 if so desired.

23. With a fine X-Acto saw, carefully remove the sides of the Lima wagon, but leave the four corner pillars in place. This involves cutting down through the steps at the ends and then along the bottom deck through each centre pillar, removing all steps, centre pillars and the top bars. Leave the bottom bar in place.

24. Measure, cut and fit a strip of 0.020" plasticard 2mm wide to the outer edge of the top deck so that the whole top deck is a neat fit into the remaining four end pillars.

25. Glue the top deck to the pillars, ensuring that it fits neat and is an even, level fit all round.

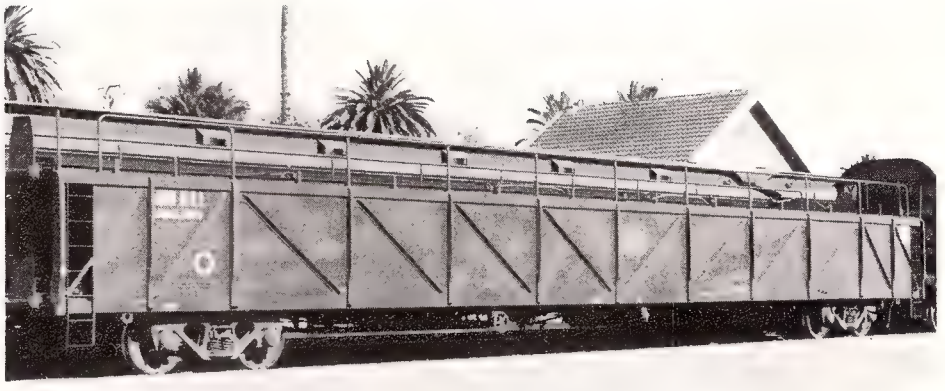
26. To make the centre bracing cut strips of 0.020" plasticard 1mm wide. I know that they are too wide but if they are any narrower they will be too weak. These braces must help support the upper deck. Therefore, if the bracing is too thin it may bow.

27. Cut and place the braces evenly according to the plan, starting from the centre and working toward each end. The braces should fit between the top and bottom bars so that the outsides are flush. Place all upright braces first.

28. Then put in the diagonal braces, measuring and cutting each to fit between the uprights. This is a slow job but well worth the effort. Repeat for the opposite side.

29. Ladders, purchased separately, can now be added to each end where indicated on the plan.

30. Take the six motor cars (or eight if you have two left over from before) and carefully remove the bodies from their bases and glue about 25g of lead (20g if using eight cars), inside each car, to the centre of the floor.



Two more car carriers photographed in Mildura in 1980 by John R. Page. Both are coded AMBX, but the livery differs. AMBX 220, above, is painted in ANR red while AMBX 207 below is still painted in the old SAR grey.

31. Replace the bodies of the cars onto their bases and cement in place.

32. Place four cars on the top deck and two (or four) on the lower deck. Alternatively, you may replace the cars with diecast cars such as Matchbox, Fun HO or Weico. Do not glue in place at this stage.

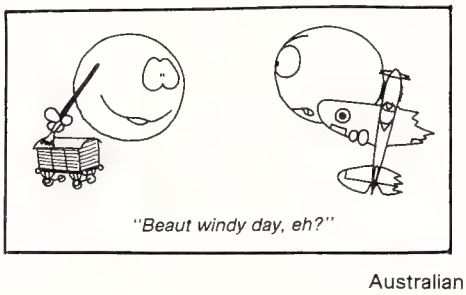
33. Remove the cars and paint the wagon inside and out in the colour scheme of your choice. If you are modelling SAR, WAGR or ANR (Commonwealth Railways) then you will need to add a board made of 0.010" plasticard to each side. Obtain suitable decals and cut the boards to size to suit the decals. Colours are: NSW — grey, black, blue or Indian Red; VR — red; SAR — Silver Grey; ANR — Wine Red; WAGR — yellow. Numbers for NSWGR BKX (SRA NMKX) include 11861-11876 and 11887-11926.

34. Couplings, as before, should be of a long shank, although mine have Sentinel couplers and work quite well.

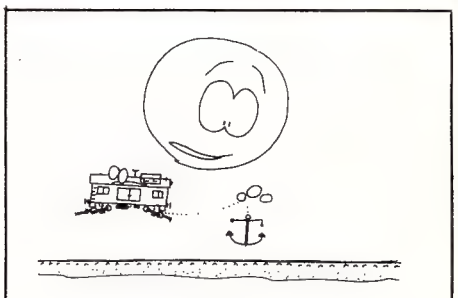
35. Bogies, as before, should be replaced as described in Steps 15 to 18 but make sure that the screw does not protrude through the lower deck.

36. Replace the cars as required and your model is complete. The cars may now be glued down if desired.

Good modelling! ▪



"Beaut windy day, eh?"



"Who brought the brake van?"

DIARY

Continued from page 10.

EXHIBITIONS

GLEN WAVERLEY — Victoria October 11, 12 1986 at Glen Waverley High School. 8th Annual Exhibition. Open 8am-10pm (Sat), 9am-5pm (Sun), Admission $2.50/$1. Organised by the Waverley Model Railway Club.

CONVENTIONS

SYDNEY — N.S.W. May 17, 18 1986 at Macquarie University. A modellers convention organised by the Australasian Region of the N.M.R.A. All modellers welcome. Details:-John Saxon, P.O. Box 155, Baulkham Hills, 2153. Phone (02) 84 7383

MEETINGS

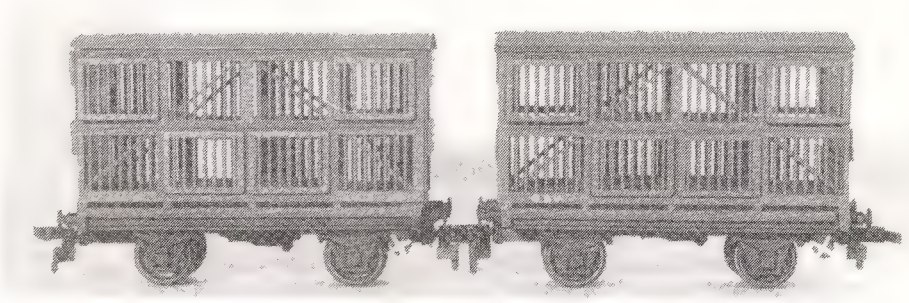
BRISBANE — Queensland June 7 1986 at Upper Brookland. 'A Day With Model Railways' — A one day workshop to enhance basic skills will be provided by lecture, demonstration and open forum. All welcome. Details Greg Reason, M/S 525, Ipswich. 4305.

OPEN DAY

ROCKDALE — N.S.W. July 5, 1986 at AMRA Clubrooms, Chappel Lane, Rockdale at 2pm (to 5.30pm). Organised by the N.S.W. Branch of the Australian Model Railway Association.

NSWGR — GSV 4 WHEEL SHEEP VAN

by Barry Wood



GSV ready for work.

Why not build a couple of GSVs from a proprietary BSV?

Mini Models have produced a moulded plastic kit of the NSWGR bogie sheep van — BSV. This kit, with a minimum of fuss, can be converted into two GSVs with the purchase of a minimum of extras. This is how I went about it.

Firstly, take one of the original sides and accurately cut it in halves and smooth up the saw cut. Remove the two ends from the original sprue and deflash. Glue these ends into place on the sides (I used MEK). Set aside to dry (make sure it is square).

While it is drying, take the middle floor and cut it in halves accurately then glue it into position in the rectangular cage already built.

While this lot dries, cut the roof in half such that there is about 1mm overhang each end. Cement the longer piece in place.

Now the tricky bit — the floor. Cut the supplied floor to size and cement in place. Cut the supplied weight to size, just large enough to fit inside the lugs on the supplied floor.

Cut a rectangle 59mm x 31mm out of a piece of 1mm thick polystyrene sheet and glue the weight in place with contact cement; cement this rectangle to the floor. Cut two pieces of 1.5mm polystyrene sheet 3mm x 31mm and cement these to the end of the floor under the supplied ends (these are the buffer beams).

Cement a piece of U channel along the bottom of the floor to give the side beams. All that remains is the wheels. This may be done in a couple of ways. S wagon axle boxes are available but this may be a little difficult for some. I used PMH K truck underframes by firstly cutting them in halves, removing 5mm of the side frames from the centre and then fixing the two halves to the floor such that the axles are 35mm (10') apart (contact adhesive worked well here). Fix the couplers of your choice, buffers and paint.

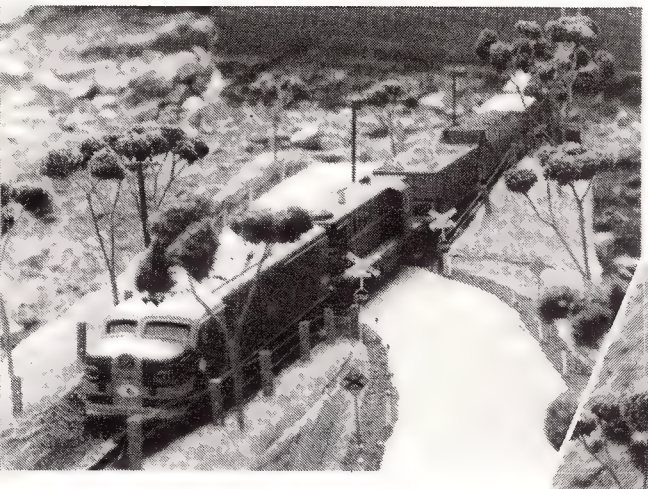
The second GSV is a little more difficult to do and uses all the remaining parts except the short piece of roof. This is how I went about it.

Firstly, make up two ends, following the pattern of the supplied ones — i.e. cut a piece of scribed polystyrene into a rectangle 31mm x 29mm. Cement pieces of 20 thou polystyrene into the position for the vertical and inclined bracing and then two pieces over the top of these for the outer horizontal boards.

When dry, fit the sides and ends together. Fit the floors, weights, wheels etc. as before then set aside to fully harden.

Now the roof. Some GSVs had a plain sheet metal roof, others had a corrugated roof. The plain roof was used on this one by cutting a piece of venetian blind slat to length — the width was about right. This fits the curve of the roof and the ends require to be filed down to this curve. When a good fit has been obtained, superglue into place.

I feel these bodies are a little light and have used metal wheels (from Mansfield Hobbies) and a little extra lead to increase the weight to about the right amount. ■



OPEN LEVEL CROSSINGS

by Michael Hicks

Level crossings are a common feature on Australian railways and make an interesting scenic feature on a model layout. However, many modellers are discouraged by the cost and electronic problems of flashing lights and only the bravest attempt working boom gates. An easy way out is an open type level crossing.

These crossings are often found in railway goods yards and industrial complexes and many still exist in country areas. In NSW the XPT seems to have an affinity for this type of crossing.

Open level crossings are protected by the type 'B' and 'D' level crossing signs. The type 'B' consists of the usual cross arms and a red warning triangle, and is used where road traffic has a clear view of the railway tracks and an approaching train can be easily seen. The type 'D' sign is similar but has a standard 'STOP' sign in place of the red triangle. This is used where road traffic is required to stop before crossing the tracks. Both types of sign usually have an additional plate showing the number of tracks being crossed.

My model shows an open level crossing in a typical south coast NSW setting. The base is an old shelf of pineboard with packaging foam used as a base for the scenery. The foam is covered with plaster reinforced with surgical gauze; this forms a very tough shell. The plaster is coloured with artist's acrylic paints and grass matting and various texturing materials added. The trees are hand made with twisted wire, road guide posts are 16 swg wire, fence posts and telegraph poles are from Craftsmen Models and all road signs from Christine Hicks.

Rollingstock consists of: Lima 44 class, scratchbuilt 48 class, scratchbuilt 'AIS' and 'BHP' coal hoppers and carriages kit-bashed from Lima twelve wheelers. ■

V.R. X class diesel electric locomotive in HO scale by Samhongsa of Korea. Imported by Broad Gauge Models, PO Box 136, Boronia. 3155. Price: $450.00

The X class was first introduced to service in 1966 when Clyde Engineering built six G16C models numbered X31 — X36. They were hood units and carried the then standard VR blue and chrome livery.

In 1970 X37 and X38 were built as replacements for S314 and S316 which had been destroyed in the Violet Town Southern Aurora 1969 disaster. This order also included a further six units (X39 — X44). These were the Clyde Engineering G26C model, which mechanically and electrically is very similar to the NSWR 422 class. Of course the X class retained the hood styling, but as the engine installed was more powerful than that used in the first batch, some alterations were applied to the long hood, handbrake and the radiator grills.

In the early 1970s the V.R. was suffering from a shortage of motive power and called tenders for ten 2000 hp and ten 3000 hp locomotives. The latter became the C class while the former became the third batch of the X class and entered service in 1975, being built by Clyde Engineering at their South Australian plant. Numbered X45 — X54 they differed considerably from earlier models in that they had a new cab and short hood, the latter to improve forward vision. This model was the first to use the new AR10 traction motor and was freely used on both goods and passenger service. As introduced they carried the standard VR livery.

The X class are used for both broad and standard gauge, transfer taking place by replacement/swapping of bogies. For a short period in 1982 the 'newer' X class participated on 'through running' from Melbourne to Sydney, and a number of the class were seen on the front of interstate trains such as the Southern Aurora, Spirit of Progress and express freights. Unfortunately this did not continue for the Xs were returned to broad gauge workings being replaced by NSW SRA 422 class locomotives. With the introduction of the G class, it is expected that V/Line will return the 422s as the Gs become operational.

Like other locomotives, the Xs have received the attractive Orange and Grey livery adopted when the V.R. took on a new image and the V/Line name.

The model, fabricated from brass etched sheet, castings and pressings is supplied in a stout, foam lined box. The models, a choice between the second and third series were supplied fully painted in either V.R. or V/Line livery and each packet includes a small packet of spare screws and springs, two radio antenna, a signed 'Limited Edition' ownership certificate (the number of which is engraved on the locomotive) and photo reduced/produced numbers for individual numbering.

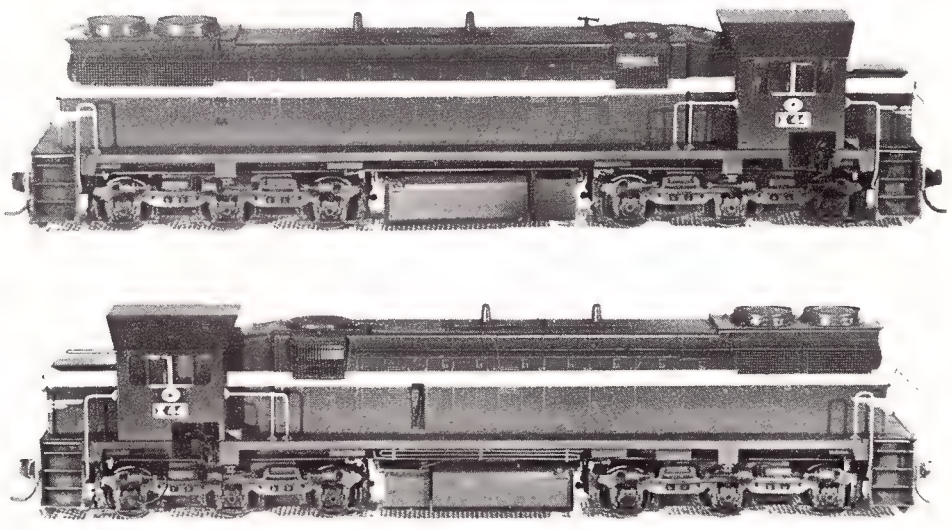
The antenna, if required, must be added to the cab roof as should the antenna decals which are supplied. The numbers, which are white on black, included every model in the two series supplied. A detailed sheet of suggestions/recommendations accompanies the model, and while supplying some interesting prototype data, it also includes numbering information and more importantly model servicing details. On its own, this sheet of paper is very valuable.

The models reviewed were a V.R. version of the second series and a V/Line version of the third series. As with most current day Samhongsa built diesels, these models have been beautifully crafted and have exquisite detail. Etched detail includes louvres, hinges, door handles, steps, fan grills (with rotating fan blades) and running board tread. Castings include horns, air hoses, windscreen wipers and moveable rear-vision mirrors. Add-on detail includes handrails, lift rings and fuel tank which includes filler caps and fuel gauge.

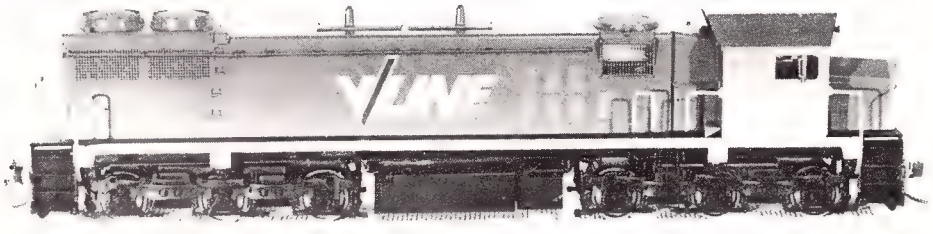
The highlight of the model is the grill behind the cab, assembly of which is superb and the bogies, which have been fabricated from a number of castings instead of being a complete casting. The bogies include the now new sprung journals and the brake slack adjusters.

The models are good representations of the prototype and the paint scheme is excellent. The model accepts the Kadee No.5 coupler.

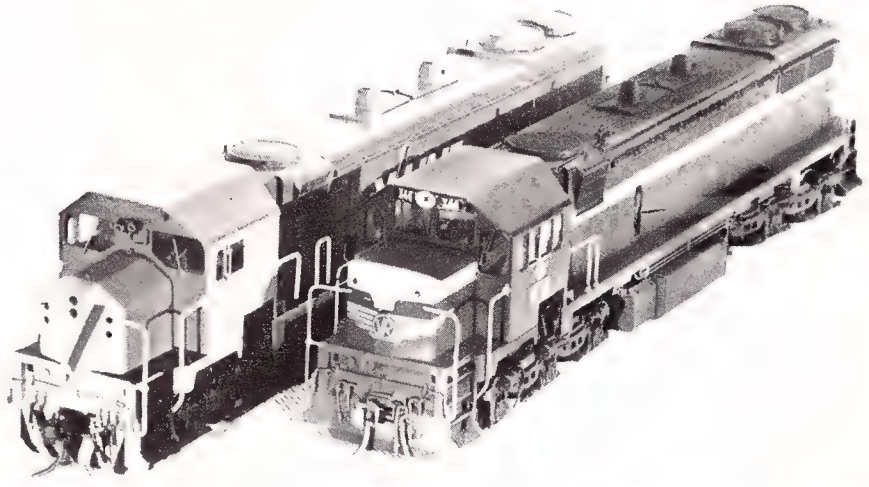
On the track the models gave mixed performances. The first series ran like a dream straight out of the box, but the second series model would not complete a circuit of the test track No.1 end leading. The problem was found to be the leading wheels of the leading bogie — they were not touching the track. The problem was eliminated by packing the bogie bolster mounting and it was here that the instruction sheet and the engineering of the model came to the fore. The model was very easy to take apart and then re-assemble although it is not a chore that one should expect to do too often to a new model.



Samhongsa built HO scale X class (2nd series) in VR livery — Imported by Broad Gauge Models.



The V/Line version of the 3rd series X class in HO scale. Built by Samhongsa of Korea to the order of Broad Gauge Models.



Running qualities were excellent, the model easily negotiating No.4 points and responding well to the controller. The crawling speed was 0.95 kph (0.58 mph), top speed at 12 volts 136 kph (84 mph) which opened out on full throttle of 15.5 volts to 195 kph (121 mph). The model was able to handle the full load of 17 Lima passenger cars without any trouble and even started on the 1 in 30 grade with the load.

In summary, these are very fine models and are good representations of the prototype and have proven as popular as the prototype. The running problem with the latter series should be looked at in isolation, for further enquiries has shown it not to be a common problem. The fact that the models are painted allows the modeller to use the model as soon as the box is open. The cost of the paint scheme appears to be at the expense of cab interior detail. An acceptable compromise.

Bob Gallagher and Allan Brown.

Railway Ticket storage pages. Available from Light Industries Sheltered Workshop, 307 Brisbane Street, West Ipswich, 4305. Price in Text.

Modellers who also collect old train tickets soon find that filing them by glueing them into a book means that the back of the ticket, with its interesting 'fine print' thereon cannot be read. Collecting tickets for only a short while leads to a large variety of destinations and fares being amassed, and some means of easily re-arranging storage/display is required. This is possible with the plastic envelope from Light Industries, which is made of clear plastic and is divided into twenty five pockets. The pockets are designed to accept tickets 31mm x 57mm but tickets up to 35mm wide can be accommodated.

The 232mm x 322mm pages are provided with seven different holes along one margin which allows the envelope to fit a wide variety of binders. Each page is double thickness and the insertion/removal of tickets is easily accomplished. The pages are priced at ninety cents each from the manufacturer, but sales tax (18c per sheet) and postage must be added.

Edward Ward.

Coal, Steel and Gravel Railways of N.S.W. A Rowlingstock production videocassette available from ARHS Sales Dept., PO Box E129, St James. 2000. Price: $49.95 (plus $2.50 handling and postage).

Brian Rowling is one of Sydney's well known rail enthusiasts, and on this 48 minute video he has put together a collection of his 9.5mm and 16mm movies from the 1960s to show some very unique railway scenes. Most of the footage is sound, with the commentaries by Brian, and almost all in colour. The footage contains some very unique and historic scenes

Included in the tape are scenes of:-

- Emu gravel in 1964 and 1965
- South Bulli Colliery in 1950 and 1959
- Corrimal Balgownie narrow gauge in 1960 and 1962
- Bulli in 1965
- Lysaghts and AIS in 1965 with slag dumping (there's a great nigh shot here), AIS diesels, electric coke units and hot metal cars
- Garratts at Port Waratah in 1968
- SMR 10 class and non-air hopper trains. Scenes at East Greta Junction
- A footplate ride on a ROD, plus shunting scenes at Hexham
- plus many more

The complete production is well done, and the comentary helps a lot and is brief enough not to become boring. What black and white segments there are are few and mostly towards the start of the tape (in the 1950s, when film costs were relatively dear). Incidentally, the earliest segment on the video is Corrimal Coal Co's No.18 in 1950.

I like the run pasts in this tape. Brian has started his camera on the approach of the train, pans, and fades to departing shots. Some other tapes I have seen appear to give a 'now you see it — now you don't' feeling.

If you're looking for heavy main line viewing, forget it. This tape is purely of those little backwater and/or privately owned industrial lines.

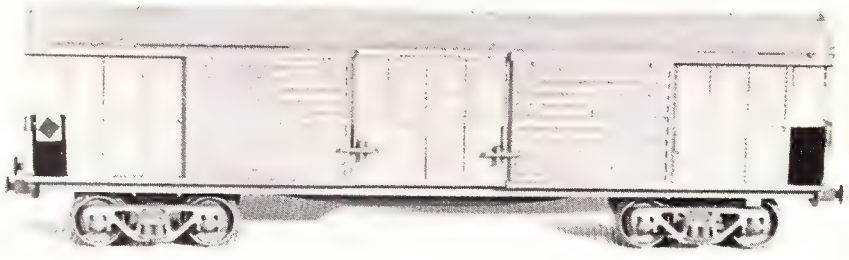
As stated, there is some historic footage, and the sudden appearance in one scene of 'the hair on the lens' will bring back many memories of steam chasing in years long past. It's an enjoyable tape, well thought out and edited. Well done, Brian. I hope there are more to come.

Allan Brown.

Computer cleaner (KC-01) portable vacuum cleaner. Imported by Thomas Electronics, 12 Larkin St., Riverwood. 2210. Price: $27.50.

A very necessary, but rarely accomplished task in model railways is the cleaning of the dust and grime from our models and the layout. This task seems to be left until just before the visitors arrive, and then we always blame the gremlins, but never the real problem. Lack of maintenance.

KC-10 Computer Cleaner — vacuum cleaner.



Q.R. QLX bogie louvre van in HO scale by Far North Hobbies.

This little tool will not do the cleaning for you but it will make the task easier. Ideally models should be kept under cover so that dust and grime does not fall onto the model, but as most of us leave our models on the layout in normally dusty environments, the computer cleaner should come into its own. It is a small handheld device, something like a chuckless electric drill. It is powered by tow C type batteries, which naturally must be inserted the correct way — details of which are illustrated on the box the cleaner is supplied in. A two position switch, simply moved with the thumb (for right-handers) controls the vacuum.

Supplied with the cleaner are two nozzles, one of 12mm diameter and the other 30mm wide. These simply push into the hole in the nose of the cleaner. The dust picked up by the cleaner is collected between the nozzle attachment point and the filter. It will be wise to keep this area clean, for a dirty filter will soon effect performance.

It is very easy to use. Select the brush required, switch it on and then work the brush tip over the dusty area. The bristles are very fine and will not damage the finest of detail, unless of course you were very clumsy and bashed the plastic holder against the detail. The amount of dust collected in a few minutes was very surprising.

This is a fine tool, which will be very useful. For those who have an interest in computers it is also very good at cleaning keyboards, for while writing this review the cleaner has been worked over the computer keyboard and voilà . . . dust free keys.

Bob Gallagher.

New Zealand Railways North Island Working Timetable of July 1947. Published by the New Zealand Railway and Locomotive Society Inc., 86 Totara Crescent, Lower Hutt. New Zealand. Price: $NZ44.00.

Timetable collecting is a growing interest in the railway enthusiast fraternity, and no doubt this 334 page, hard bound publication has been prepared for that interest. It is a companion volume to the December 1952 South Island working timetable released in 1979. The timetables within cover the Main Trunk as well as the many branchlines still in service at the time.

The period of course is when steam was king, and the only electrical power in service was on the Wellington — Johnsonville and Wellington — Paekakariki lines. The book is complete with an index and a foreword by the highly reputed T.A.McGavin. A very interesting section of the book is toward the rear where various subjects are covered, including rolling stock restrictions. Here, there are many items that would help the modeller wishing to run his layout prototypically. Elephants, for instance, must only be conveyed in bogie vehicles and wagons T 28, 83 and 84 have been set aside for this traffic, although they may be used for other duties when not required by the elephants. The information is endless.

Bob Gallagher.

Queensland Railways QLX bogie louvre van kit in HO scale by Far North Models. Available from Tamworth Hobbies, Kmart Plaza, Tamworth, 2340. Price: $14.00

The QLX class louvre vans of the Queensland Railways are of steel construction, fitted with high speed bogies and designed for express freight and perishable traffic. Some 750 wagons were built and they are to be seen virtually anywhere on the Queensland system. QLXs are regularly part of the consist of long distance passenger trains such as the 'Sunlander' and in recent years, a number have been converted for use as baggage cars, recoded MLBC and painted in 'Lander' passenger car colours.

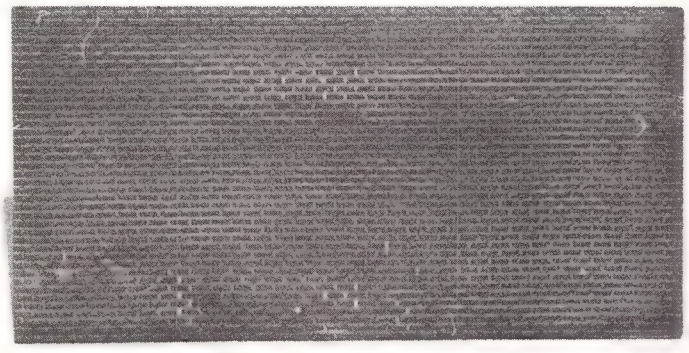
The kit comes in the usual plastic bag, the sides, ends and floor being moulded in grey epoxy with a piece of 0.040 styrene provided from which to fashion the roof. The assembly sheet is rather brief with only minimal details about the location of lettering, coding etc. and no information about underbody detail. Bogies and buffers were not supplied.

After removing some excess epoxy from inside of the ends,assembly was straightforward using an instant glue. The sheet of styrene for the roof needed trimming and I found it easier to scribe the styrene down the centre of the sheet, as set out in the instructions, snap it in half and attach the two halves separately.

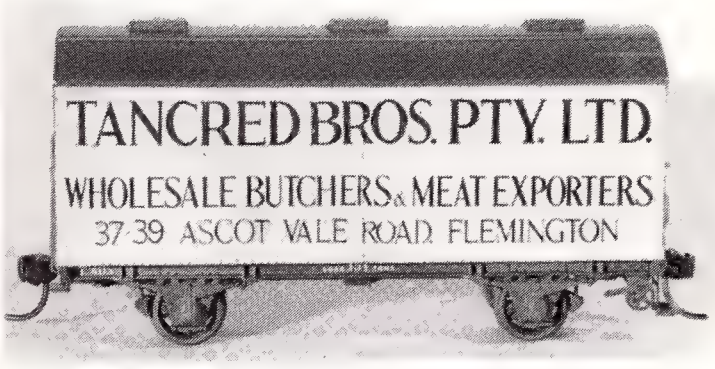
To complete the model as photographed, I fitted buffers and XCL freight bogies (AR Kits) which I specially fitted with 9.5mm wheels. The model was painted a lightish shade of grey. I note that brass buffers are now supplied with the later kits from this manufacturer and where appropriate, red QR emblems are included. It is possible that these items may now be supplied with the QLX kit.

The kit when assembled was accurate to known dimensions. The floor height is designed for Kadee couplings and would be a little high for normal QR practice. The QLX is a most useful vehicle for those modelling Queensland Railways but will not look out of place if you just wish to have another Australian wagon on your layout. After all, the 'X' coding was intentional even if the wagons did not actually venture interstate.

Graham Ahern.



Rix brick sheeting — in HO scale.

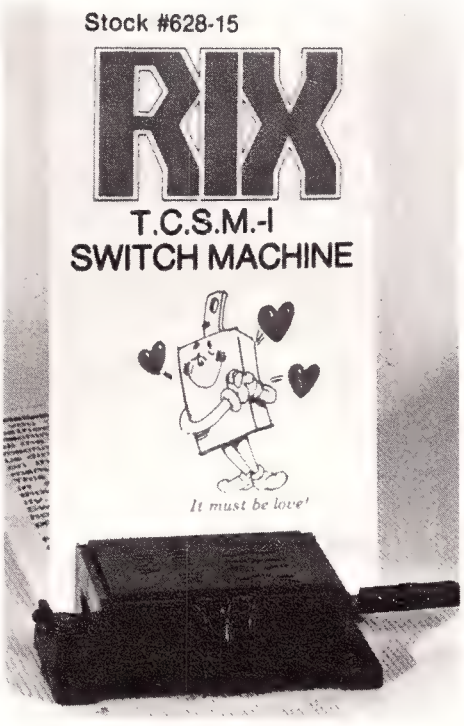


Broad Gauge Bodies have released another billboard sign decal for the VR T van. Pictured above the black decal on a yellow sided Broad Gauge Models' T van.

Plastic building materials for HO scale by Rix. Imported by Tyren Distributors, PO Box 144, Coburg. 3058. Price: $3.40 a pack of four.

These sheets cover bricks (Rix Bricks), roofing sheet and weatherboard. The sheets are moulded from styrene, being 2" x 4" in size and 1/16" thick. The roofing sheet appears to be slates, the weatherboard is 4" wide while the bricks are from all calculations very accurately sized. The material is easily cut, filed and glued and would be of assistance in building any structure.

Bob Gallagher.



Switch (point) machine and accessories for HO scale by Rix. Imported by Tyren Distributors, PO Box 144, Coburg. 3058. Price in text.

Most layouts use electrical control of points and these products from Rix are designed to cater for all requirements. The major item is the switch machine that is sold in two forms. The basic machine is priced at $9.25 while the machine with two sets of contacts retails at $10.25.

The machine is twin coil which operates at 16-24 volts either AC or DC although best performance will be achieved with DC. The power should only be applied for one second or serious damage will occur to the coils. The machine is 25mm x 37mm x 15mm high and is supplied with four mounting holes. Energy is transferred to the point by a bar which is moved by a metal slug inside the machine. This slug is moved from side to side by the energising of the coils. When de-energised, it is impossible to change the point position, the metal slug providing positive lock. The machine can be mounted in almost any position, although it is best when horizontal. Vertical mounting is possible for the tension of the point will hold the metal slug in the locked position, but some added attention to operation may be necessary at installation.

When using the electrical contacts, and for good continuous service all points should be energised from more than one location, it is necessary to assemble the contacts over the mounting points. Details printed on the pack supply all the information that is necessary to complete this task. Two contacts are provided.

The Rix Ajusto Pad retails at $3.10 and aids the mounting of the machine above and below the layout. The main component is a plastic base which has been pre-drilled. Mounting screws are provided in the plastic pack.

Rix P.T.L. is a pivoting turnout linkage that is used to transfer the energy from the machine to the point. It comprises a plastic pivot, mounting screws and a pivoting throw rod, which is made of plastic and piano wire. It retails at $3.10.

The Rix Rax provides for under-layout mounting of the machine and retails for $4.65. The pack comprises a plastic mounting base, mounting screws and piano wire for throw rod. This mount provides for mounting the machine vertically under the layout.

The Rix Rax Flat provides for horizontal under-track mounting and retails for $4.65. Again the main mounting base is plastic as is the pivot point but the piano wire is provided for the linkage to the point tie bar. This pack allows for the machine to be mounted at some distance from the point, the distance of the throw being adjustable.

In all instances detailed instruction sheets are included in the packs supplying all the information necessary to allow full use of the product. A welcome addition to the model scene.

Bob Gallagher.

Tie-bars and Badges by The Transport Tie Bar & Brooch Collectors Club, PO Box 111, Chester Hill. 2162.

One of the most saleable railway memorabillia is the ol' tie bar or brooch. It is quite often possible to identify smartly dressed businessmen by their AD60 or Puffing Billy tie bar. The TTB&BCC caters for this interest by producing between four and six items a year. These items include tie-bars colourfully engraved with railway vehicles, ships, ferries, etc. The items on hand represent the South Australian Railways 520 class, in green livery, the ever popular Pendennis Castle, now in the western regions of Australia and the Sydney Harbour ferry 'North Head' resplendant in deep blue and white.

All have been beautifully reproduced, and although the locos are in isometric form, they look good, are well detailed and are fixed to a gold clip or pin. The club sells their products to non members but they are more expensive on the retail scene than for the members. For details of the club and the tie-bars, write to the address above.

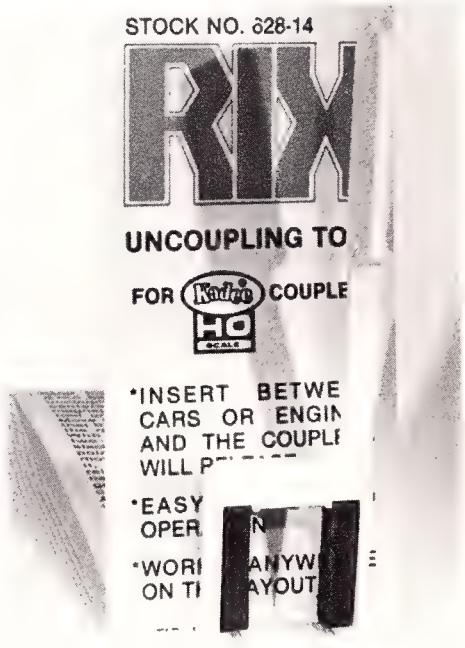
Bob Gallagher.

Broken Journeys (Vol 1) by Ken Pearce. Published by Railmac Publication, PO Box 290, Elizabeth. 5112.

This 52 page booklet covers the subject that most railway enthusiasts are interested in but very rarely seem to obtain. Accidents. Now there are devastating accidents like Granville, where the nation was shocked by the size of the death list and that it could happen in Oz, and there are the slight bumps where a loco rolls into the turntable pit.

For the record, Granville is not included in this volume but the 1969 Violet Town Southern Aurora mishap is, as well as a number of pit visits. In all over 30 incidents from all over Australia are covered in both text and photo. For those who are not interested in this ghoulish subject there are some real beaut photographs of wagons that are not easily obtained in that the underside of the wagons are visible, and how often do you climb under a wagon for that little extra bit of info.

Bob Gallagher.



Uncoupling tool for Kadee couplers by Rix. Imported by Tyren Distributors, PO Box 144, Coburg. 3058. Price: $4.90.

Uncoupling Kadees, when not over a magnet is a cumbersome task. There are small tools that allow you to clip them apart but more often than not modellers end up lifting one of the models clear of the other in an effort to attain uncoupling. The Rix uncoupler has been highly acclaimed in the overseas press and it is good to see it available in Australia.

Before using the uncoupler it must first be assembled, and the instructions accompanying the tool are fully detailed for the task at hand. Emphasis must be placed on ensuring that the magnets are correctly polarised. The use of the tool is very straightforward. Lower it between the desired vehicles directly over the coupler, until the plastic touches the ballast. Manoeuvre the tool from side to side while moving one car toward the tool and then away from the tool. Voilà . . . uncoupled. At first it seems cumbersome, but after a couple of tries it is very easy to use and only one hand is required.

The acclaim this tool received in the overseas press was warranted. Very useful for all HO scale Kadee users.

Bob Gallagher.

Rerailing ramps in OO/HO and N gauges by Rix. Imported by Tyren Distributors, PO Box 144, Coburg. 3058. Price: $3.90 each.

Rerailing ramps are a very easy way of placing rollingstock on the track. They are especially helpful with locomotives and models with very fine detail around the bogies. Both are made from white plastic and are 300mm long (170mm — N gauge) and are formed in the shaped of a ramp. Two ribs which act as guides are moulded near the front of the ramp while a securing screw hole is provided at the rear.

To use the ramp, sit the front lip over the rail and roll (or push) the vehicle down the ramp onto the track. They work simply, and are very effective.

Bob Gallagher.

MAILBAG

Sir,

Mr. Grahame John Lowe, in his letter published in AMRM February 1986 shows an ignorance of the model railway industry, both local and worldwide which, unfortunately, is all too common amongst railway modellers and model railway enthusiasts. I differentiate between the two as I will later explain. First I will comment on Mr. Lowes letter and then make some comments of my own.

As I write the British Toy and Hobby Fair is concluding at Earles Court. This is the first time for five years that I have not attended this venue as other, more profitable business, usually takes me to London at this time of the year. During these visits I have been keeping a finger on the pulse of the British model railway industry and feel competent to comment.

At last year's Toy Fair the organisers set aside an area exclusively for the model railway industry called the Great Train Show. This area was available to both British manufacturers and importers of overseas product. Checking back through the catalogue I find that the only non British product represented in that area was Pola which displayed on the stand of their local agent Peco. In various other parts of the Fair were displayed Lima, Tyco ('A Team' sets only), and Bachmann. There was also an independent display by the Minitrix factory but in three days at the Fair I did not see one potential buyer at that stand.

I was not just looking at last year's Fair. I was trying to find a UK agent for Trax products. Not one company was interested despite direct approaches from both ourselves and our, then, manufacturer in Hong Kong who had good connections in the British Toy industry. The unanimous reason given, the British model British and only a very few are interested in prototypes outside the British Isles. As the proprietress of one well known store in the Midlands put it, "If we have trouble selling European and American how in Hell are we going to sell Australian". This statement was recently reinforced when an acquaintance purchased six original livery Lima 44s at Beaties main London store at two pounds each. He could have had more if baggage space had allowed. If the Poms won't buy Australian locos at two quid each what hope do we have of exporting on a regular basis.

The American market is similar. Our total sales to the USA of the 48 class have been one gross with the buyer reporting very little interest. The main buyers are expatriate Aussies and tourists. Paul Hogan and barbequed shrimps may go down well on the West Coast but Australian trains don't. Once again, Americans model American. If anyone is visiting the USA try and find a shop stocking non US outline, outside of a couple of specialists on the East Coast.

I suspect that Mr. Lowe has very little idea of the expense or logistics involved in taking a full scale display to the European Toy Fairs. This year The Earls Court Fair finishes on January 30th and the Nuremburg Fair starts on 1st February. Even if it were possible to dismantle a stand in London in one day it would not be possible to transport the whole thing to Germany, even by airfreight and have it reassembled in Nuremburg to start one day later. The operation would involve shipping two complete displays to Europe and need a staff of at least four to assemble and man the stands. Allowing for the not insignificant costs of space at two Toy Fairs, airfares and transport, and hotel accommodation, which in the case of Nuremburg needs to be booked for the following year when checking out the year before, the potential exhibitors are not going to get any change out of $20,000. If $20,000 was 5% of our turnover I would gladly invest the money in the exercise.

The problems of the Australian model railway industry lie squarely on our own doorstep and can be equally divided between retailers and final purchasers. Mr. Lowe was right in the basis of his letter but looking at the wrong solution of the problem. Walk into most major model railway retailers anywhere in Australia and see what brands are most prominently displayed. A check of six major Sydney retailers, in the Central Business District, just before Christmas showed only one with Australian prototype prominently displayed. Most had Marklin, Hornby, Fleischmann and a dozen lesser brands on display. To find a Lima or Trax locomotive one had to ask and was then treated almost as an idiot for having the hide to want to purchase an Australian model. Only one of the stores carried Australian rolling stock kits of any brand. I watched in amazement at one city store when a woman, with a ten year old son in tow , asked for a Lima XPT set and was told by the so called expert behind the counter that it was a piece of junk and was despatched from the store with a Roco train set under her arm. Another potential Australian model railway enthusiast was lost.

The second problem lies with the purchaser. Yes, we are all Australians, and in this new age of National awareness why are we still buying overseas prototype models and not modelling Australian? To maintain a viable manufacturing industry in this country and to produce the models that true Australians want we need a 500% increase in sales. If all the traitors, who call themselves Australians, stopped buying British, American, German, etc., and bought Australian outline we would have a large enough market to support an industry which could manufacture high quality plastic locos offshore and maintain a viable rolling stock and accessory manufacturing industry in Australia.

A further problem lies with the creature called the railway modeller, no to be confused with the model railway enthusiast who is a different breed. The railway modeller is a peculiarly shaped individual with a big mouth, short arms and extremely long pockets. He, for I have yet to meet a female of the species, is usually nomadic, wandering from shop to shop, criticising products, always asking when this, that or the other is going to arrive but never buying it when it does because he usually finds that it is too short, too long, the wrong colour or the woofle valve is in the wrong position. The enthusiast, on the other hand is prepared to buy a new model, accept it for what it is and be happy with it. We need more enthusiasts and less modellers.

Lastly, for the moment, the figures on sales versus potential buyers do not add up. AMRM has a circulation in NSW of about 4,500 copies. This would suggest that a new model should sell at least that number in its first run. Most will agree that our FS/BS models were a good model with no major faults and can be put to good use on any NSW layout. Therefore allowing for the people who we know have bought up to ten of each and those who have bought only one or two we would have expected to sell out of our first run of 2,500 each almost immediately. At today, although we are now down to stock of under 72 of each, and some shops are running low, we have still not sold out, four months after release. 2,500 is not a large quantity for such a model so where are the buyers. We know that other manufacturers have had similar problems with some kits which should have sold much faster.

We are embarking on a major tooling programme over the next two years and have selected a range based on a combination of items requested in letters to us and the use of as many common parts as possible. At the same time we are broadening our product base by introducing a range of 1:43 scale diecast Australian cars. As a matter of policy we have decided that if there is just one hiccup in the sales of any new model railway product we will divert the funds for future model railway products into the much more lucrative model car field. In other words, Gentlemen, put your money where your mouths are or very soon there will be no ready to run items coming from this company. We are now associated in Hong Kong, with one of the best model manufacturers in Asia and with technology now being developed, e.g. a 7 pole ringfield motor, we will be able to produce some of the best Australian outline yet seen. But not without the support of the retailer and buying public. It's up to you. Next time you may come across a retailer who doesn't stock Australian outline ask him WHY? And if the answer isn't satisfactory take your business elsewhere. Then perhaps the Australian Industry will flourish and prosper and that is to the benefit of all true Australians.

One final note. As most readers will be aware, due to the efforts of a small group of misguided individuals, Australian outline imported models attract a duty rate of 20% while models of overseas railways pay only 2%. This does not substantially affect the pricing of our Hong Kong made plastic models as the main cost is in the actual tooling and we are only obliged to pay duty on the production cost of the item which is comparatively small. As from 1st July, 1986 the preferential Duty rate for Developing Countries has been abolished and imports from these countries will now pay 15% duty. This will have a devastating effect on the already highly priced brass locomotives which are now the backbone of motive power on most Australian layouts.

I address these words to the individuals who caused this iniquitous situation. If there are no more brass locomotives and no new Australian outline ready to run plastics what is going to haul the huge range of rolling stock kits which are now available in this country. It is a fallacy that most people are modellers. Most people are model railway enthusiasts without the time or the skill to properly assemble and paint a kit loco. Most people would prefer to buy one out of the box or not at all. If the duty remains on Australian outline stock the industry will find itself sinking into a new dark age and sliding backwards. You can all compete without protection. What are you being protected from? No overseas manufacturer is prepared to invest the large sums we locals have in Australian models and the products currently being produced in Italy and Hong Kong compliment rather than compete with the locally made ranges. Think about this very carefully as you may all have to answer to the Administrative Appeals Tribunal in the very near future and that is going to be an expensive exercise for all of you.

I await with interest and anticipation the imminent tirade of abuse about to be hurled in my direction.

John R. Eassie,
Managing Director,
Trax Model Products Pty. Ltd.
Ryde. 2112.

Sir,

I have just recently returned from a holiday in Queensland. During my stay in Brisbane, I visited the Queensland Branch of the Australian Model Railway Association at South Brisbane railway station. There were so many different types of locos running on their layout. (British, American, Aussie.) It didn't seem to matter what type of loco you had, you were made welcome. In other words, there were no "clicks" of people who think that if you do not run the same type of locos as them, then you are not welcome. The members of Qld. A.M.R.A. seem to be so friendly and even though each individual may like a certain type of loco they don't look down on others who are "different".

I don't think that you could find a more friendlier bunch of people who will go out of their way to help you and make you feel at home. I wonder if I would be made welcome as much as I was in Brisbane if I walked into another club association with a Lima XPT in one hand and a Hornby Flying Scotsman and half a dozen American carriages in the other.

Is this typical of all the railway clubs and associations or could it be that these people are so friendly because they are Queenslanders! I just hope that when I visit other clubs and associations, I'll be made as welcome as I was when I visited the Queensland Branch of A.M.R.A.

M. Webb,
North Nowra. 2541.

Sir,

Although I am not a modeller (haven't the spare time, patience or space), I regularly buy AMRM because each issue has something of interest to me. I have particularly enjoyed Rick Richardson's Vulcan Vale articles because of his meticulous attention to detail, and background stories. How did he think of trinkle and plinkers?

Alf Trumper,
Kirribilli. 2061.

Sir,

I am writing this to indicate the boredom that the 'on-going' dispute of 'Big Bad' Bob's 8101 model is giving me and undoubtedly many other readers. For several issues, a column at a time has been devoted to a worthless 'schoolboy' argument over the preferences of a model-lover who has paid a great deal of money to get what he desires. I couldn't give a 'brass-razoo' whether he painted his model in the 'traditional' tuscan livery or for example a VR C class diesel in bright purple (yuck!), it's his model or models as the case may be.

Oh, by the way I am an enthusiastic 16 year old VR/VLine modeller/kitbasher who believes that many locos look distinctly better in the new liveries around Australia. But there are of course the exceptions; the C class diesel looks much more impressive in the VR livery than the V/Line livery. (Oh, no here goes another hornet's nest.)

Thank you very much for an impressive magazine on Australian model railways. Hopefully this will be the last word on the 8101 'debate' but I doubt it?

Andrew North,
Glen Waverley. 3150.

P.S. Please don't take this personally Bob.

Sir,

May I say that your magazine is improving all the time, from excellent to fantastic. The use of the colour and layout would be a credit to a mag produced by a 'full-time' staff.

Next time you all get 'down in the dumps' over critical comment (like W.M.Secker of Glen Iris) just think of the silent majority who may not respond everytime, but they continue to support your staff and magazine.

Keep up the good work.

Neil McMahon,
North Ward. 4810.

Sir,

Mr.D.Peters comments regarding 'MLW 80 class' locomotives is incorrect. The Comeng 80 class has an Alco engine but is **not** an MLW design. Comeng used the Alco engine as any other designer would — as a component of the locomotive.

The 80 class has similar bogies and air compressor to a 442 but that is all. The cooling system, traction motor blower, dynamic brake, body structure, electrical system, etc., are all Comeng and Comeng subcontractors (eg Mitsubishi).

Comeng in fact found a number of inadequacies in the MLW design, notably in the cooling system and engine governor — these were vastly improved in the 80 class.

Bombardier are the owners of the Alco designs in Canada and are now totally out of the locomotive (building) business. They are concentrating on selling the Alco engine only, to designers such as Comeng.

Incidentally, S. Dick had a head start on the facts — he was the engineer in charge of the design of the 80 class at Comeng.

On an other tack — have a close look at the running gear on 8650. This loco is an otherwise standard 86 class but fitted with three two-axle bogies — called TriBo (Bo-Bo-Bo). This loco is for SRA evaluation of the TriBo concept and a development prototype for TriBo locos to be supplied to Queensland by Comeng. The arrangement is intended to give high traction and low wheel wear and curve force compared to a conventional Co-Co type. With the Flexicoil suspension and traction rods on the bogies, it would make an eye-catching model.

Having dealt the 81 class his final blow, I guess Bob Cooke is now looking for his next challenge — what about an XPT in 'traditional' 900 class railcar tuscan red and yellow lining or an 86 class in the original 46 class (tuscan red and red lining) livery, (or a 42 class in NSWGR red lining on black — Ed).

Keep up the fine magazine work!

Brian Dick,
East Blaxland. 2774.

Sir,

I have just finished reading the February issue of AMRM and was sorry to note some of the hassles you record there. I felt that it was high time that I wrote and expressed my appreciation of the efforts of you and your editorial crew. As editor of a major publication myself, I greatly admire the work that you produce on a purely voluntary basis. It is a first class effort. As far as I am concerned there is only one drawback to AMRM — it comes out every second month! Keep up the good work.

Leo Simpson,
Editor,
"Electronics Australia".

Sir,

The other day I brought a Lima French steam loco. Now what I would like to do, is to kitbash it into a N.S.W. D59. I would like some help with it, so do you have in any of your back issues articles on how to kitbash a Lima French loco into a D59, or do you know anyone who knows how?

L. Gilholme,
Kemblawarra. 2505.

Unfortunately, while many modellers have built the D59 from a French Mikado, AMRM has never carried an article on the conversion. Maybe a reader will contribute an article on the conversion.

Sir,

I was pleased to see the article on 'Timber Bridges in N.S.W.'. A well researched and interesting article obviously the result of considerable research into a previously largely overlooked part of our railway engineering heritage and thus part of the model railway scene.

May I be permitted to make a few comments on this excellent article?

As stated in Ian's article "The variety of types is occasioned principally by the date of construction rather than the locale."

Timber trusses on NSW Railways are actually two different styles built during two different periods of time and two different Engineers in Chief.

The first being John Whitton (1867-1889) who, being trained in Britain naturally adopted British engineering practice. These being Queen Post trusses as constructed between 1886 and 1889 on the Northern Line and the Queanbeyan — Cooma line and are patterned after similar bridges in Britain. The Queen Post trusses has three panels and the verticals are timber.

The Howe truss as described in the article with its timber diagonal members and iron or steel rod verticals were constructed between 1894 and 1917.

Henry Deane, the successor to John Whitton as Engineer in Chief (1890-1906) was responsible for the adoption of American practises in bridge engineering which included the use of the Howe trusses. The same applies to Iron and Steel trusses in use in N.S.W. Those built under Whitton being the English style Lattice trusses and those under Deane the American style Pratt trusses. The Pratt trusses became the standard truss bridges use in N.S.W. from then on.

Timber girder bridges in N.S.W. also are of two different styles.

The 'Whitton' type timber girder used square timbers, built up girders, solid pier caps (ie the pier caps are one piece sitting on top of the timber piers) and ballasted decks.

Those of the latter period have transom tops (ie. sleepers laid directly on the beams) and the pier caps are in two separate pieces checked into the top of the piers.

The differences in pier caps is also seen in the two truss types and can be seen in close examination of the photos in Ian's article.

The two different styles of timber girder bridge are also illustrated in AMRM No. 116 (October 1982), the cover photo illustrating the latter style and the article on page 38 being the older style with ballasted deck.

Ian stated in his article that the older style with ballasted deck is easier to model. This may be so but in the prototype the transom top type was easier and cheaper to construct and maintain.

N.S.W. Railways are the only system in Australia where timber trusses remain in service. In Queensland and Western Australia all have been replaced by more modern structures.

Anyone who wishes to further their knowledge on this subject should read 'Civil Engineering in N.S.W. 1881-1905' by Dr. D. J. Fraser published in the ARHS Bulletin in December 1985.

Also of interest is the book 'Spanning Two Centuries, Historical Bridges of Australia' by C. O'Connor published by the University of Queensland Press 1985.

A 'Register of Australian Historical Bridges' is published by the Institution of Engineers, Canberra and the Australian Heritage Commission 1983.

If anyone is considering researching and/or writing an article on Australian Railway Bridges of any state I would be pleased to help with both background material and editorial comment on the article.

Arthur Robinson,
Northgate. 4013.

Arthur can be contacted by writing to him via AMRM. All letters will be forwarded.

Sir,

Regarding your review about the Commonwealth Railways RMX flat wagon by Broad Gauge Bodies in the February 1986 Australian Model Railway Magazine.

As I work at Trackfast Chullora I see many types of flat wagons come into the yard. Occasionally the abovementioned wagons come in loaded with three 20' containers loaded on them and sometimes only a single 20' container loaded on it. When the examiners examine the train this type is usually marked off for repairs to twist locks which fall down into the deck and the twist locks jam and cannot be freed.

The wagons also get marked off for defective brake gear, the air brake is cutout and is sent back to its home state for repairs. A train can have 10% of its loading cutout which is only one wagon. Also regarding the review of the CH coal hopper which to inform you that some of the vehicles are being converted to wheat hoppers by the addition of a roof and hatches like the WHX hoppers. These are being made at Eveleigh boilershop and fitted to the WHS at Clyde Maintenance Centre.

Hoping the information is a benefit to your readers.

D. O'Brien,
Seven Hills. 2147.

Sir,

I would like to suggest a series of articles, the subject being the Brill railcars of the S.A.R. There has been an article on them in the A.R.H.S. Bulletin and as the plans of the S.A.R. locos and rolling stock have been put into the South Australian Library Archives in rolls it is virtually impossible to find them. The only Brill railcar the magazine has published, was 210 under 'Horseboxes of the S.A.R.'

Dean Jackson,
West Croydon. 5008.

At present we do not have the Brill Railcars on our 'subject-to-be-covered' list and we can only direct readers to the Bulletin article.

Sir,

I agree with the comments of Mr Lowe about selling Australian model railways overseas, up to a point. It would be nice to see Australian manufacturers at, say, Nuremberg either individually or in association. But it would not be worth their while financially unless they were sure of getting worthwhile orders in their books. People are not going to fall over themselves to buy simply because the goods are from Australia.

Why not? Simply because little is known about the railways of Australia. Mr Lowe mentions the railways of various countries that have been represented by model layouts in 'Continental Modeller'. Certainly there have been layouts representing South American, Indonesia, Africa and Europe; but one country has been conspicuous by its absence. I refer to Australia; there has never been an Australian layout — and by this I mean a layout representing an Australian railway and not a British or German layout built by Australians — featured in that august periodical.

People are not going to buy Australian models if they do not know something about the prototype. For example, Brazil has had a successful model railway industry for many years now but how many Brazilian models are available over the counter in Australia?

So before the Australian models can be sold overseas a market must be established. Certainly at the moment certain exotic types can find an overseas market. The AD60 Garratt, for instance, has a successful sale overseas and it is possible the SAR 520 also would find ready sale, but only because of its appearance. the general Australian locomotive, I fear, would not find sales overseas because they are unknown and because they are not, as I said above, of exotic appearance.

So first of all an interest in Australian railways must be established overseas before the commercial products manufactured here can be sold in Europe and America. And this can only be done by publicising Australian railways, both prototype and model.

What are the sales of AMRM, for instance, like overseas? I do not mean by private subscription but how many copies are sold over the hobbyshop counter in England or America? Has it ever been mentioned in the overseas press? I fear not very often. The French model railway magazine often reviews the current issues of contemporary magazines including both the 'Model Railroader' and 'Railway Modeller', neither of which has a French language edition I might point out, but there has never been, to my knowledge, a review of AMRM.

Thus the first thing to be done is to have articles about Australian railways, both prototype and model, published in such magazines as 'Continental Modeller' and I suggest that Mr Lowe start the ball rolling by sending an article about the subject to that magazine. And the management of AMRM should enthusiastically push sales of the magazine overseas. I am of the opinion that AMRM is **not** the **equal** of overseas magazines, it is **the best** model railway magazine in the world and I speak as one who has seen copies of most model railway magazines published in the United States and Europe, not one of which comes anywhere close to the standard set by our magazine and that includes the much touted 'Model Railroader'. For that reason alone it should be sold overseas.

I might mention that several months ago the house magazine of the SNCF, 'La Vie du Rail', had a series of articles on the railways of Australia and a separate article on electrification of Australian railways. However, even though many French modellers read V u R, alternate issues having a modelling section, it could not be said to be getting to the mass market.

Thus it is up to both modellers and enthusiasts in Australia to publicise Australian railways in the mass market magazines such as 'Continental Modeller' and 'Modern Railways' as well as the publishers of AMRM pushing overseas sales before it is worthwhile for the manufacturers of Australian model railway products going international. Granted there is at least one Victorian manufacturer selling overseas but his goods are of specialised interest and he is to be congratulated for his efforts, but a market must be established before there can be wide sales of Australian products.

And remember, 'Continental Modeller' pays for material published, so first send an article to AMRM and then rewrite it for sale to CM.

Ern Raddatz,
St. Albans. 3021.

AMRM is distributed world wide including the USA and USSR, but all are to subscribers. We do sell through five outlets in New Zealand, but again the number is not large. Over the years we have sold through USA outlets

but the orders were not sustaining, mainly due to the problem then of monetary exchange and the difficulty of chasing bad debts overseas. Copies of AMRM are sent to most of the major magazine publishers. It has received very kind remarks in a review in Model Railways a few years ago. Unfortunately, time is our worst enemy, for we are flat out preparing the copy and other relevant procedures (like going to bank, paying bills, keeping accounts, etc.) to even chase sales in Australia, let alone overseas. Yes, we will accept a genuine offer of help from any kind volunteer who has an interest in pursuing sales overseas for AMRM. — Editor.

Sir,

I really can't put into words how much help this magazine has been to a beginner such as myself, my only previous experience was an extensive Triang set up until my mid teens (20 years ago). I don't have a layout yet (no room) but the rollingstock is building up.

I'm modelling Victorian, current era, in particular the main Western line, living in Deer Park is a big help and a good excuse to take the dog for a walk, camera in hand. Anyway, enough said, my wife blames you for my new hobby and she's right! An excellent magazine, keep up the good work.

Terry Dyer,
Deer Park. 3023.

Sir,

I read with ecstasy today in December 1985 AMRM, Issue 135, page 45, under 'Publications', that Railmark Publications has a 52 page booklet 'Kuala Lumpar & Singapore', a railway pictorial.

I have for over a year now, been trying to obtain any vestige of information on the Malayan Railway, especially photos! This really sounds as if it will help me enormously, as I grew up in K.L., and am trying to recreate as close as possible the environment, etc., on my own pike.

You mention, naturally that the book is available from usual hobby shops etc — Australian of course! However I am not sure who to write to for this; can you possibly recommend to me who to try. By the way — your magazine is excellent, and the Hobby is obviously big in Oz. I hope to live in Australia shortly, so am looking forward to the immense variety of hardware available.

David Pidford,
Pakuranga. N.Z.

With all review/preview items, if not available at your local hobby shop, or from an advertiser in AMRM, contact the manufacturer/publisher whose address is usually contained in the introduction to each review. With Railmark Publications, their address is PO Box 290, Elizabeth. 5112. Australia.

Sir,

I have just finished reading the February 1986 issue of AMRM, and I wish to clarify you concluding statement to the report on the 1985 Orange Exhibition.

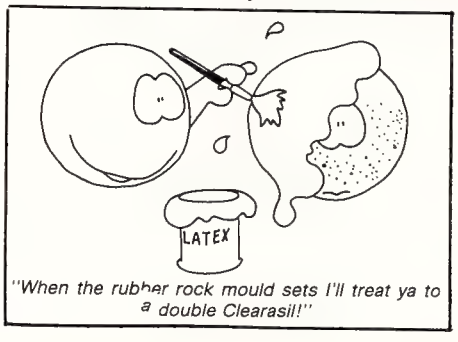
The Central West Railway Modeller's Association has recently decided to conduct an exhibition in Bathurst during 1986, however, the club is planning for Only a Small display. This display will be presented on a similar format to that presented during the Ben Chifley centenary celebrations last year.

When deciding to hold a 1986 display, the governing factor regarding the scope of the show is due to our proposed relocation of club quarters. It is felt that the disruption caused by moving, would hamper a comprehensive exhibition if attempted during 1986.

It is my hope, that though small, our 1986 display, which is intended for late October/early November, will still be entertaining for the attending public.

Finally, may I add, the Orange exhibition organiser's will certainly appreciate your glowing report. It is hoped that any future major exhibitions will be successful.

Steve Jeffs,
Secretary
Central West Railway Modellers Association.



"When the rubber rock mould sets I'll treat ya to a double Clearasil!"

AMRM NEWS

Compiled by Bob Gallagher.

Special thanks to all those who have been very patient with us re our computer crash. Unfortunately, what seemed to be a simple electronic problem actually deleted a couple of subscribers from our mailing list as well as losing many editorial items. When we commenced using the computer to assist with management, we developed a number of systems to check on various computer operations. What we have now found out is that it is only accurate to within a few percent. No doubt some are laughing at our suffering from the computer age, but in reality our machines have saved us many hours of work, and time is our most precious commodity.

Just in case there is another crash in the future, if you as a subscriber find that you have not received your copy within two weeks of the designated distribution date (the first of the month of issue), please do not delay in writing to us with all your details.

As this issue went to press we became aware of a problem with the renewal notices for the S001 group, in that quite a number of subscribers appear not to have received their initial renewal notice. We are not sure where the problem occurred, but we are hopeful that the second notice will pick up all those missed and we will do our utmost to ensure that any subscriber who genuinely misses the April issue is not penalised.

Model Railway Tutorial

The Railway Modellers Club of Queensland, in accepting a challenge to 'put something back into the hobby' is holding a workshop on the 7th June 1986 at Upper Brookland with the objective of fostering the transition from toy trains to railway modellers.

The subjects to be covered include 'Planning & Construction' of your own masterpiece, Scenery, Electrics and Rollingstock including maintenance, construction and modification. Notes covering the points made by the speakers will be available. Unfortunately the numbers will be limited to 40. Details over the day are available from Greg Reason, M/S 525, Ipswich. 4305. The cost of the day is $13.50 per person which includes morning and afternoon tea and a B.B.Q lunch.

Import Duty

All the talk in the trade these days is the import duty that is applied to HO scale, Australian outline models imported into this country. Regular readers will remember the debate on the issue last year. Basically, because of action by some Australian manufacturers, there is an import duty of 20% applied to all HO scale locomotives, rollingstock or lineside structure in either ready-to-run or kit form that 'is based on past or present prototypes operating in Australia'. Any other models, based on any other prototypes only has a duty of 2% applied.

To top this point, as from 1.7.86 all Korean supplied brass locomotives of Australian outline in HO scale will receive a duty of 15% on landed price.

Fifteen percent may not seem much, but the point of where it is applied can raise the price of a $450 engine by from $80 to $100 an item.

The cost structure of imported models will be that if a model costs $100 landed a duty of 15% is applied, making the cost $115. A wholesale sales tax of 20% is then applied to this cost plus 20% ($138) raising the cost to $165.60. So before an importer can start adding his costs (including shipping, bank interest and wages, etc) and his profit margin, and even allowing retail outlets a margin, his $100 product has been lifted a further $65.60, $42.60 of which is in the Government's hands.

This discussion is not to debate the costs of brass models nor for that matter the reasons why tax and duties are applied. But it seems inconceivable that our current legislators or bureaucrats who run the country seem content to tax those of us who show an interest in Australian railways more than those who are interested in British, European or American. One could readily accept the additional levies if they were applied to overseas outlines, and this would obviously be the case if we lived in, say, America and British prototype were being rammed down our throats. It is now believed that the duty on Korean built models has been applied, to bring them into line with those produced in Japan.

The apparent reason for the levy is to protect the local industry, for what it is.

One could debate for hours the merit of protection of local industry, but in this instance — especially with ready to run locomotives or rollingstock, there is no industry actually in Australia. We know some manufacturers have been promising to build ready-to-run for over twenty years but there is no evidence that anyone is even close to accomplishing this task. So why the protection. Who is being protected.

One good aspect of the latest action is that a number of our brass locomotive suppliers have banded together to fight the introduction of the levy. This action will included lobbying through the Australian Chamber of Manufacturers and their local politicians, a copy of one letter, from Broad Gauge Models, being printed on this page.

The management of AMRM fully supports these actions but feels that it is falling short in not applying for either the levy on all models, brass and plastic, being either reduced, or else the same levy applied to all models imported into this country.

Why Brass?

No doubt some readers are wondering why all the fuss over brass engines. After all they are only supplied in limited numbers and only purchased by the elite in the hobby, the models being too expensive for the mere mortal. While not debating the issue we must point out that the supply of brass engines consumes a large portion of the dollars spent on the hobby during the year. Just think that if there were 150 AD60s at $850 each, 200 81s at $595, 200 Xs at $450, 200 421s at $385 and 120 42s at $400 sold in one year the payout over the shop counter would be over $1,500,000. Believe it or not that is not small bickies, and if one seriously checks the numbers of models released in a year they will quickly realise that the above figures are very conservative.

Market Effect

How will the application of the duty affect the market if it remains? AMRM contacted all current importers for their view on the matter and their reaction varied

5th February, 1986

Mr. P. Milton M.H.R.,
Shop 32,
Dorset Square,
Rear 252 Dorset Road,
BORONIA, 3155.

Dear Sir,

Re: Tariff Concession

We seek your support on the above matter relative to TC 8432734 and TC 8432735 in either having the words 'based on past or present prototypes operating in Australia' removed from the Concessions or a new Concession granted with the said words deleted.

It has been announced that from 1st July 1986, goods of Korean manufacture are to be subject to duty. In our case a duty of 15% is to be imposed.

Our reasons for objecting to this imposition are:-

(A) We have been importing HO scale Victorian prototype model locomotives from Korea for 4½ years without any adverse effect on the local industry, because there is not any local industry capable of manufacturing these highly detailed, extremely accurate models in brass. Mr. J. Treanor of Dept. of Industry Technology and Resources and Mr. T. Tovey Personal Advisor to Mr. R. Fordham M.L.A. agree that no such industry exists.
The research that is required and the highly detailed drawings that are required to manufacture these models are all carried out in Melbourne.

(B) As we manufacture in Melbourne the rolling stock necessary to complete the 'train', our future sales will be drastically affected if model locomotives are no longer available to pull the rolling stock. It must be realised that the imposition of duty of 15% will increase the price of a locomotive from between $80.00 to $100.00.
It must also be realised that when our sales are drastically effected so will the work going through our custom moulding shop and the work going through our packaging contractor which is an intellectually handicapped activity centre, both in your Electorate as is our contract toolmaker and die sinker.
In fact, we ourselves may well have to close.

(C) The fact that non Australian prototypes entering Australia attract only 2% duty, whereas models 'based on past or present prototypes operating in Australia' attract 20% duty now, except for Korean sourced which will, as mentioned, soon have 15% imposed upon them, is not encouraging Australian modellers to model Australian prototype.
Surely the Government should be encouraging Australians to model our history, our heritage, especially as our Bi-Centenary is not far away.

(D) We also manufacture within your electorate line side products for the Victorian prototype modeller, those products include items seen in railway yards, signals and buildings such as goods shed, station, 4 room cottage etc.
The production of these items will also be drastically effected.
It is worth noting that all our products are sold throughout Australia.

We are not alone in seeking the changes to the Tariff Concessions, here in Melbourne ALCO (a company that imports brass locomotives only) and ourselves are working together. Three 'sister' companies who cater for the New South Wales modeller are working together and the five of us hold regular phone discussions on this matter and all five will shortly be holding a meeting with the Australian Chamber of Manufacturers who have indicated their support in this matter.

Looking forward to your support in this matter.

F. J. Fagan.
Manager.
Broad Gauge Models.

from importer to importer. Some could see the slowdown of the brass market reflecting the modeller's inability to find enough money to buy the models, some felt that it could eventually put them out of business while others indicated their confidence in the market, in that they were supplying a product that modellers wanted and most would find the price no matter what the cost. When one considers the amount brass engines have risen in cost over the past few years it is not hard to see how the latter view is explained.

One thing that you can bet on is that there will be a real run on brass models arriving in Australia prior to 30.6.86. What odds a Customs strike during June holding up all deliveries.

Avoidance — A Cynic's Viewpoint

As it seems to be the nature of Australians to try and avoid any taxation or duty levies, there is little doubt that some consideration will be given to these Tariff Concessions. Now the bottom line is HO scale and Australian outline (Why are HO scalers being persecuted). Could someone produce a model in 3.6mm to the foot scale and avoid the levy as it is then not HO scale. As there is always debate about the accuracy of some models, could the importer, upon the receipt of a very poor review reclaim the duty due to his model not being a genuine Australian outline. The mind boggles at the connotations one could come up with. Just think, as many Queenslanders claim they are not Australians, could a QR model be exempt of the duty.

Quite frankly, it is ludicrous that this levy be applied to any model of any material of any scale, no matter what the reason. And before you all jump the gun and reply on the above, we are only joking . . . but one must wonder what the result would be.

COMMERCIAL NEWS

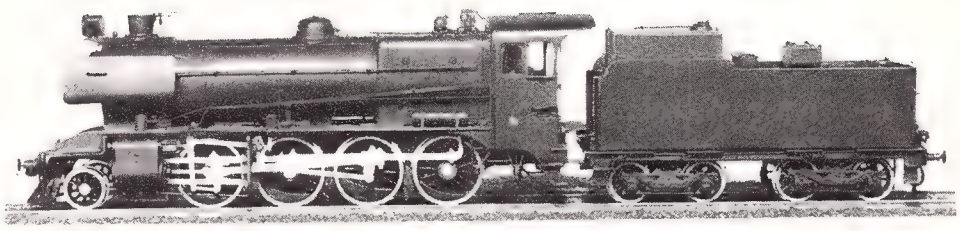
The local scene has been very quiet recently with only a few new models arriving, and despite the above comments advice on new brass models is limited.

Since December the only item to arrive was Broad Gauge Models' X class diesels, Series two and three, which made it just in time for Christmas. BGM expect their C class steamer before the July deadline, photographs of the pilot being illustrated. Unfortunately BGM will only have advance mouldings for their AW and BW coaches at the Camberwell exhibition but the good news from the BGM camp is that their range of polyester castings — the station building and goods shed, will be available once again. There is also good prospects that their Australian cottage will become available.

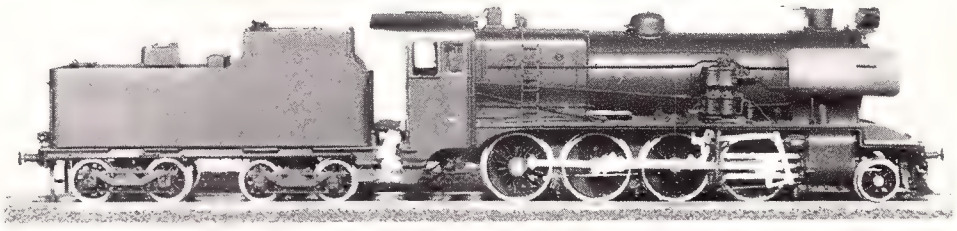
Broad Gauge Bodies have supplied the first run of their Brill railcar, a second run is being produced as these notes go to press. They are also working on the maximum capacity Brill trailer (due April) and then the fish version of the trailer. Also in production is the AN VLNX box van and axle boxes for the SAR four wheelers.

David and Isobel Anderson, the friendly couple from Mansfield Hobbies have made their impending retirement public, and look like going out with a big bang, in that their model of the AD60 should arrive in March with all orders being sold. The pilot model was on display in January and there were many raves about the quality of the detail of it.

Casula Hobbies advise that the limited run of the 42 class is due soon and that they are currently working on four new plastic kits for the NSWR modeller, they being a BD open wagon, GP concentrate wagon, E class flat wagon and the bogie water gin. At least one of these models should be available by the time this issue is released.



Pilot model of the V.R. C class steamed being prepared by Samhongsa of Korea for Broad Gauge Models.



Berg's Hobbies advise that their 48 class should be arriving soon and that they are planning reruns on the C36 class and a production run on the 620/720 railcars from Japan. Also on the brass engine planning board is the SMR 10 class, reruns of the D59 and the C35.

Alco advise that the SAR 900 class will leave Korea very soon, and as the pilot received pleasing reviews at the Adelaide exhibition, the model is expected to be widely accepted.

It is hoped that the first of the renumbered original liveried productions from Lima will be on display at the Sydney Toy Fair in early March. Lima have been fairly accurate with their delivery forecasts recently, so a number of new models can be expected in the shops.

Train World have received some samples of their VR T class diesel kit and they should be available soon. The kit, of metal castings and an Athearn chassis, will make up into either the second or third run of the numerous T class.

Trax models recently released a newsletter which outlined their future plans and detailed the demise of Playart, their Hong Kong manufacturers. Their good news is that they have lined up a new Asian manufacturer and plan for a new improved mechanism for their 48 class as it is rerun with metal wheels to AMRA standard. Happily the new manufacturers have a good record in producing high quality plastic mouldings and the metal wheels will be fitted to rolling stock on all future productions. No doubt, following the good fortune of the above, Trax have revealed their plans for future injection moulded models. On the locomotive scene they plan a 442 class, a 620/720 and an Interurban set (electric) as well as a C36 class. On the passenger car scene they plan the MHO brake van and a BSR buffet car. The MHO will be expensive but at last we have someone seriously looking at providing a van for the end of the many (Lima) six wheelers. For goods freight the CDY open wagon is being planned. Other models under consideration include the ACM coach, BX dogbox car, VHO van and Spirit of Progress cars. One cost saving feature of the Trax range is that the tooling for some models will be carried out in the spare time that many production plants lapse into between peak order time. This will naturally slow the production of some models, particularly the C36. Trax are also planning some new brass models, the NSWR 41 class diesel being the first expected.

Late news to hand indicated that Fyfe Thorpe, the principal from Fybren Models, has returned from an extensive European trip with a number of samples of new models, some of which will be ondisplay at the Camberwell Exhibition.

Just to keep the record straight, AMRM will be published in June 1986, feature articles being the VR IC tippler wagons and the NSWR 75' turntable. The rest will be a surprise to all. ■

DERAILMENTS

Last issue a number of errors were found in sections of the magazine.

Without doubt the most embarrassing error in last issue was the reversal of the colour print of the SOC on page 21. We are unable to understand how this occurred, but as this is now the platemaker's second error on the same photo we dare not print again as we are aware that it has yet to be printed upside down! We trust that readers will be able to understand the caption when viewing the photo. If not, try using a mirror to look at the photo. There is no truth in the rumour that AMRM has approached BGB to make an AN in reverse decal.

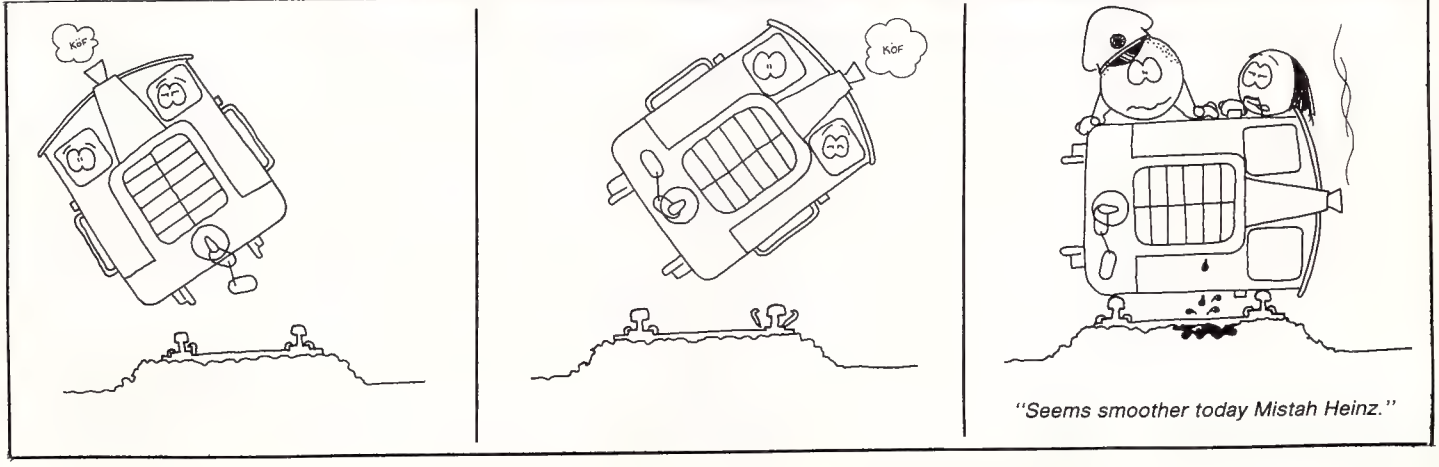
The wheel arrangement of the Westrail X class is a 2-Do-2 and not a Bo-Bo-Bo-Bo as written on page 12.

The last paragraph under the heading 'A Common Four Wheeler' in the article Tank Wagons of the Victorian Railways should have been omitted. The plan and photographs mentioned were edited out of the article.

Despite common belief, we at AMRM can count and we are aware that there are not 218 windows in the side of an FS coach. Unfortunately, we can not make high claims on our proof reading ability of the FS and BS review.

The Management of AMRM apologises for any embarrassment caused by the above errors. ■

THE GOOSE BUM LINE by Stein



"Seems smoother today Mistah Heinz."

ON SCALE SPEED . . . .

by Trevor Gibbs

Like the majority of scale modellers, I like to have some idea as to how fast my trains are running. Also, like the majority of scale modellers, I do not have the mathematical background to scientifically use constants etc. on a calculator, nor am I fussy enough to worry about being a couple of miles per hour in error. Anybody who has ever ridden a locomotive, particularly with a Hasler speed recorder, would have noticed seemingly erratic movement, usually ± 2 mph even on level track and constant load. This is because of the transmission and conversion of frequency signals from the axle generator to the final readout, and other movement inherent in railway machinery.

I cannot claim originality of the following statement as it came from an American modeller in one of the US magazines some time ago: "In HO, the number of inches travelled in five seconds is equal to the number of miles per hour."

To check this, in my anticipated glee, I pulled out the calculator (just because most of us aren't mathematically minded doesn't mean we can't use a calculator!) and worked out the following to check it.

Steps

1. mph × 63,360" = full size inches per hour
2. divide by 60 mins to get inches per minute
3. divide by 12 to get 5 secs
4. divide by 87.1 to get HO distance.

Checking out 20 mph

1. 20 x 63,360 = 1,267,200 inches per hour
2. 1,267,200 ÷ 60 = 21,120 inches per minute
3. 21,120 ÷ 12 = 1,760 inches per 5 secs
4. 1,760 ÷ 87.1 = 20.2 inches or 0.01% error.
   35 mph = 35.36 inches or still 0.01% error and so on.

Because my layout is a 4 x 8, I have a section of track I know is 38" long which I use as a speed gauge. As my trains come around I count 5 secs from when the engine enters the length and work out the proportion of track travelled. If the distance remaining is two or three inches, then my speed is, for all intents and purposes, about 35 mph. This is on the mainline. If I check the yard at yard speed I pick a marker such as a signal and time a known length passing, e.g. a 40' boxcar is 5½" long, a 50' car nearly 7", thus we have a guide for 5½ or 7 mph and an intelligent guess can do for spaces in between or multiples of these amounts. If you are still running on the wide open chipboard plains you can use rail joiners as your marker.

But we are metric, aren't we? If you so wish!! Taking our initial 20 mph as approximately 32 kph, but 20" = 51 cms! Obviously a time factor has to change. If we multiply 5 secs × $^{32}/_{51}$, we get 3.14 secs — 3 secs will do so we have approximately the number of centimetres travelled in 3 secs = the number of kph.

To check our sums:
Cms in 3 secs x 20 x 60 x 87.1 ÷ 100,000

Where:
20 = Lots of 3 secs in a minute
60 = Mins in an hour
87.1 = Scale ratio
100,000 = Cms in a Km

Thus:-
20 cms x 20 x 60 x 87.1 = 2,090,400 or 20.9 kph or 5% error.
$\frac{80\text{cms} \times 20 \times 60 \times 87.1}{100\,000}$ = 83.616 kph
. . . still within 5% error . . . to my mind acceptable.

N scalers may be in a quandary as to accuracy because, by calculation, the number of mph is equal to the number of inches in 9.18 secs so 9 secs will again suffice but at a cost of accuracy in the metric department.
e.g. 25 × $^{60}/_{9}$ × 60 × 160 ÷ 63,360 = 25.25 mph
BUT 25 mph = 40.2 kph so multiplying 9 secs × $^{25}/_{40.2}$ = 5.59 secs, making metrics a little more haphazard.
40 cms in 5 secs = 46.08 kph or 15% error
40 cms in 6 secs = 38.4 kph or 4% error.

To cut a long story short, if you are still reading this:

In **HO** to get mph measure the number of inches travelled in 5 secs. To get kph measure the number of cms travelled in 3 secs.

In **N** to get mph measure inches travelled in 9 secs. To get kph measure cms travelled in 6 secs.

In **O** to get mph measure inches travelled in 2.7 secs (or 5½ secs and divide by 2), say 11 secs and divide by 4. To get metric measures — use your calculator and multiply your mph × 1.6. This isn't tongue in cheek — I don't know how to measure 1.7 secs unless you use cms in 10 secs and divide by 6!

Now get to it and measure that length of track and enjoy your operations a little more. ▪

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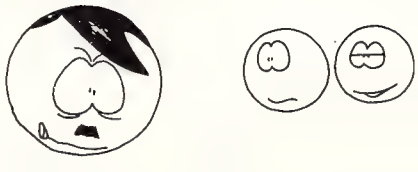

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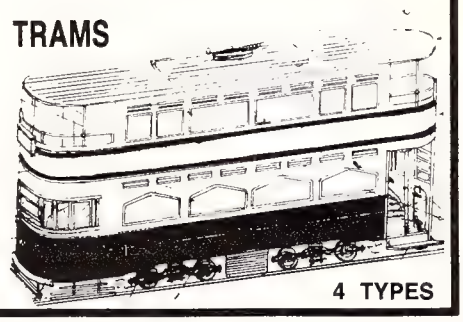

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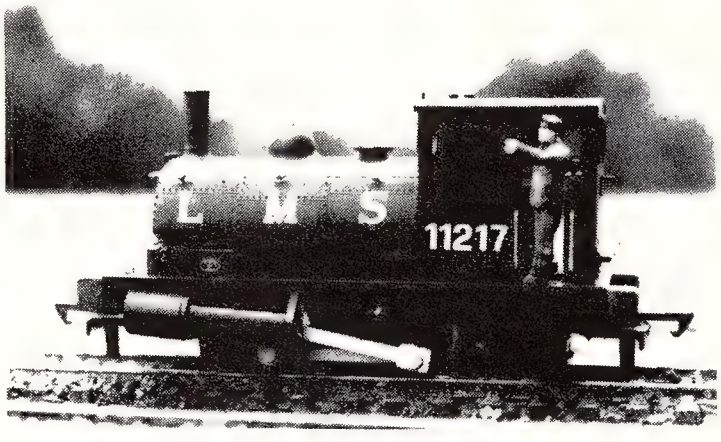

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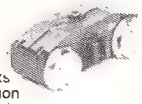

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Orders have now closed for this model. The shipment of production models is due to arrive early March, 1986 and the price of models fully paid for, by the end of March, 1986 is **$850.00.** After that date the price will increase to **$975.00**

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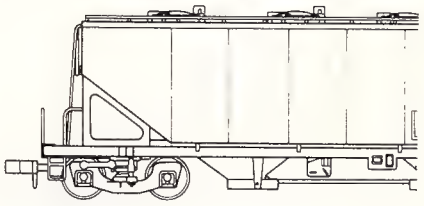
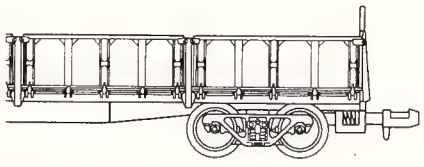
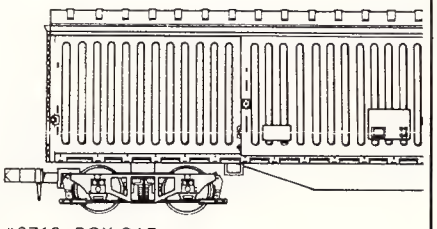


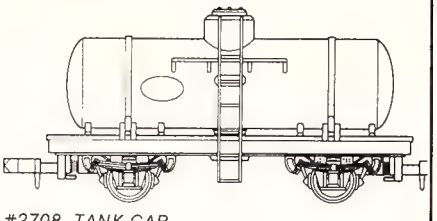
#2727 CEMENT HOPPER



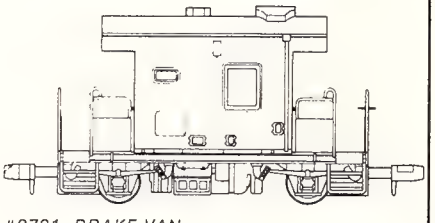
#2732 GONDOLA



#2719 BOX CAR



#2708 TANK CAR



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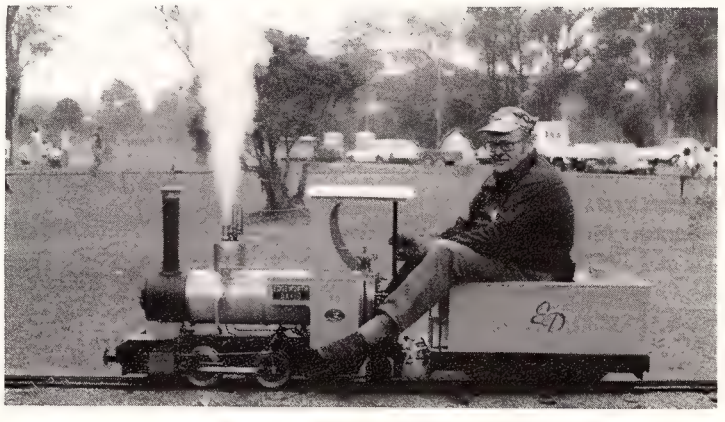

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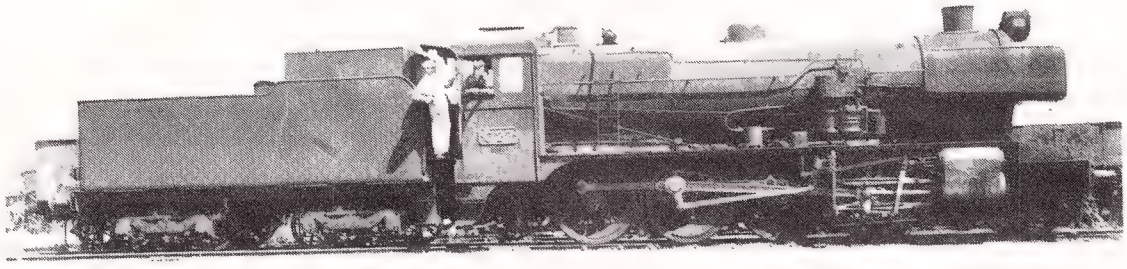

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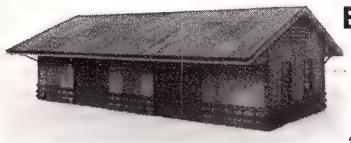

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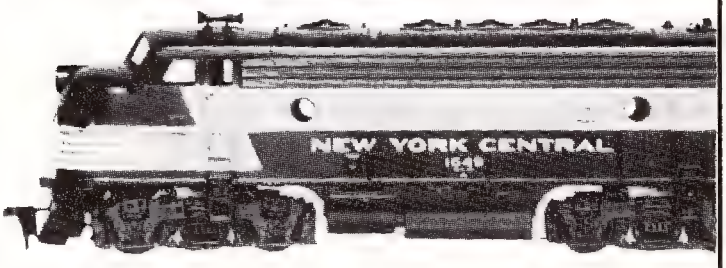

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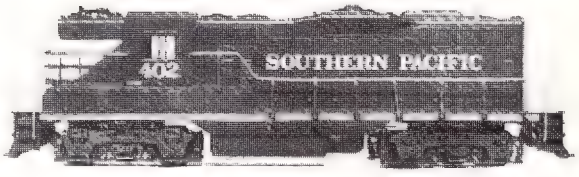
IN THE PIPELINE.....



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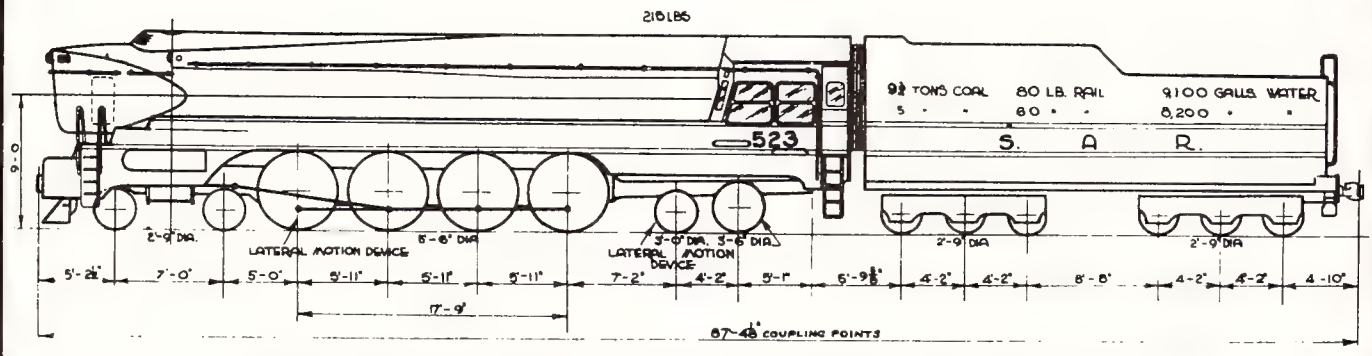

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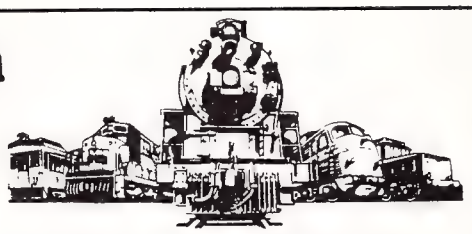

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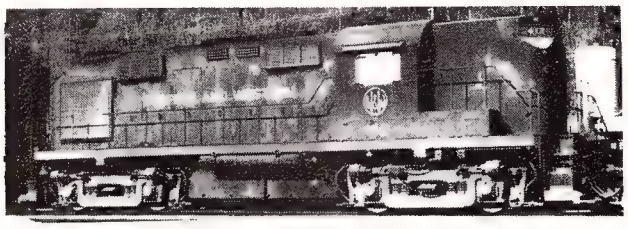

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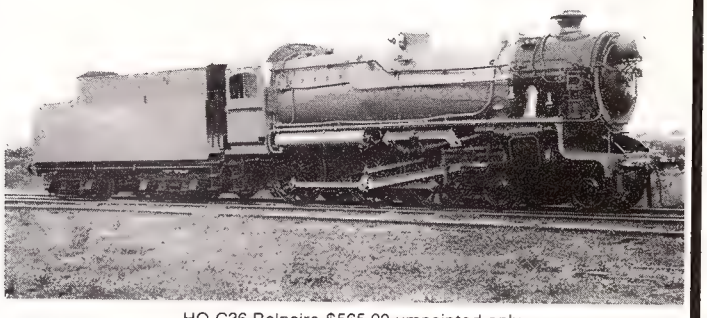

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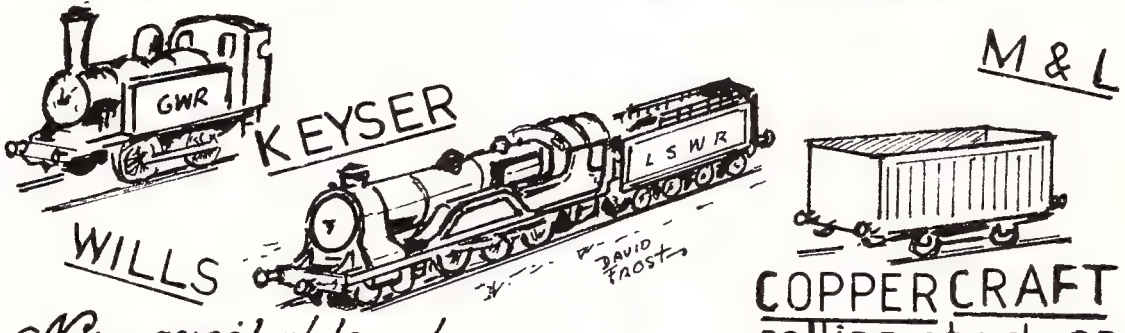

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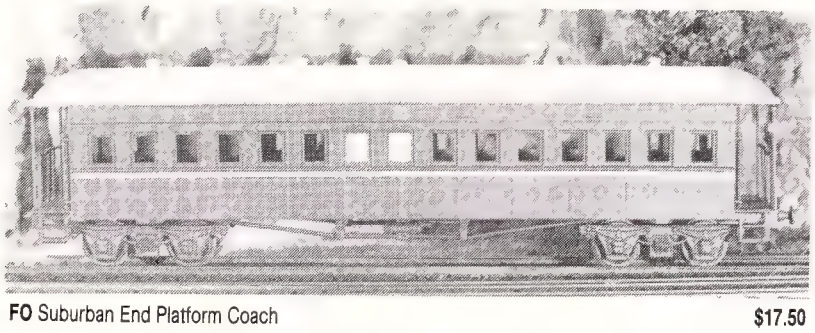

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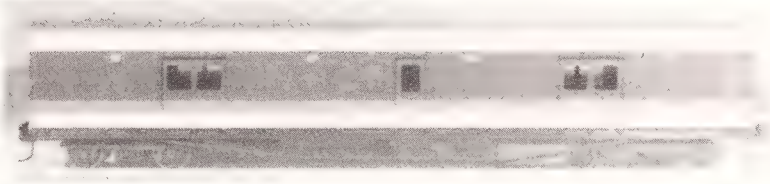

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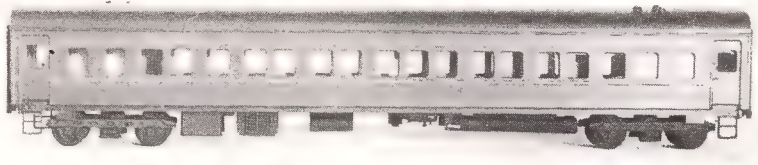

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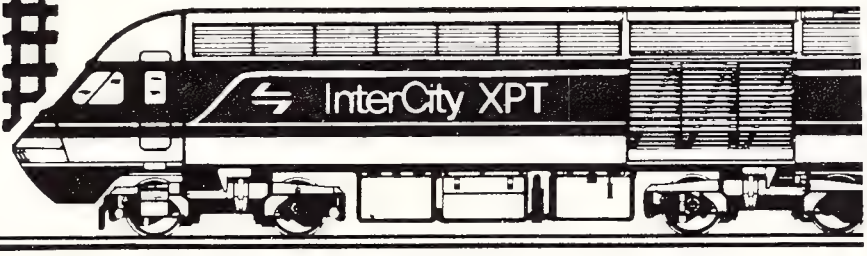

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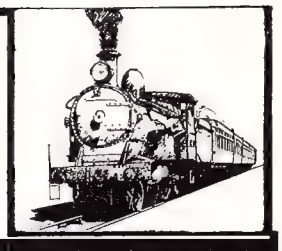

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LIMITED ISSUE LIMA "RE-RUN" LOCOS

These locos are re-runs of previously available locos, but with new numbers. We are advised that these Models will be available for a limited time only.

		RRP	Our Price
208041A	ANR 930 (Red/Silver) No. 942	$63.00	$47.95
208042A	SRA 44 Class No. 4461	$63.00	$47.95
208043A	VR "S" Class (Blue) No. 302	$63.00	$47.95
208049A	SRA 44 (Reverse) No. 4479	$63.00	$47.95
309342A	ANR Brake (Red) No. 8340	$16.20	$12.95

STANDARD LIMA LOCOS STILL AVAILABLE

		RRP	Our Price
208043	V/LINE "S" Class (Grey)	$55.80	$43.95
208049	ANR 930 Class (Green & Gold)	$55.80	$43.95
208123	ANR "GM" Class (Red & Silver)	$55.80	$43.95
208124	SRA 42 Class (Tuscan)	$55.80	$43.95
208164	SRA 422 Class (Tuscan)	$63.00	$47.95
309342	ANR Brake (Green/Gold)	$15.30	$12.50

All locos supplied by Model Mail are inspected and tested before being shipped to you.

SUPER SPECIALS

TWO DIFFERENT RED & SILVER 930s

We have obtained a VERY LIMITED number of original run LIMA ANR 930 (RED/SILVER) locos. This means we are able to offer a pair with different numbers at a very special price:

		Our Price
208041AD	Two ANR 930 (Red/Silver) 937/942	$89.95

ORIGINAL & REPAINTED 48/830

		RRP	Our Price
6102M	SRA 48 Class (Candy Colours)		$79.95
6104	ANR 830 (Std TRAX)	$65.00	$49.95

Trax 48's are currently out of production, so "hurry while stocks last".

TRAIN PACKS

SOME OF OUR PASSENGER TRAIN PACKS

		RRP	Our Price
TP10042	Lima 42 + MFE/MFE/MBE/TAM	$117.00	$ 89.95
TP10044	Lima 44 + MFE/MFE/MBE/TAM	$124.20	$ 95.95
TF10142	Lima 42 + TRAX FS/FS/BS/BS	$143.60	$109.95
TP10144	Lima 44 + TRAX FS/FS/BS/BS	$150.80	$115.95
TP102GM	Lima GM + 4 "Stainless" cars	$117.00	$ 89.95
TP102SG	Lima Grey "S" + "Stainless"	$117.00	$ 89.95
TP102SB	Lima Blue "S" + "Stainless"	$124.20	$ 95.95
TP102422	Lima 422 + "Stainless"	$124.20	$ 95.95

Believe it or not, we have many other Train Packs!

SOME OF OUR FREIGHT TRAIN PACKS

		RRP	Our Price
TP11042	Lima 42 + Mixed Freight	$115.05	$ 89.95
TP11044	Lima 44 + Mixed Freight	$122.25	$ 95.95
TP11142	Lima 42 + 4 Trax BDX + MHG	$111.55	$ 89.95
TP11144	Lima 44 + 4 Trax BDX + MHG	$118.75	$ 95.95
TP120SG	Lima Grey "S" Mixed Freight	$119.85	$ 95.95
TP120SB	Lima Blue "S" Mixed Freight	$127.95	$ 99.95
TP18093G	Lima 930 (Green/Gold) Mixed	$119.85	$ 95.95
TP18093R	Lima 930 (Red/Silver) Mixed	$127.95	$ 99.95
TP180GM	Lima GM (Red/Silver) Mixed	$120.75	$ 95.95

PASSENGER AND FREIGHT CAR PACKS

AUSTRALIAN FREIGHT CAR SIX PACKS

		RRP	Our Price
SP6027	6 TRAX AIS Hoppers	$33.00	$26.00
SB6031	6 TRAX BDX Gondolas	$65.70	$55.00
SP6030	6 TRAX Container Wagons	$33.00	$26.00
SP303239	6 LIMA 62 ft. AMPOL Tanks	$77.70	$59.00
SP303626	6 LIMA BP Tankers	$70.20	$55.00
SP309036	6 LIMA ELX (Green/Gold)	$74.40	$59.00

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6035	1 Manildra Wheat Hopper	$ 7.50	$ 6.50
SP6035	6 Manildra Wheat Hoppers	$45.00	$36.00

** All of the above Freight cars are available singly — see our catalogue for prices. We also have the TRAX MHG brake van (black) in stock (6026 RRP $12.95 but from us $10.95). Other TRAX and LIMA cars are available including car transporters and 4 wheel wagons.

NEW! AUSTRALIAN PASSENGER CAR PACKS

Starting THIS MONTH, Model Mail are offering package deals on coaches. We have selected combinations for these Coach Packs that provide a reasonable mix of cars, with a healthy cost saving built in.

		RRP	Our Price
CP100	3 TRAX FS plus 1 BS	$87.80	$69.00
CP101	3 LIMA MFE plus 1 MBE	$61.20	$49.00

Lima Passenger Car, Dining Car, Sleeper & Power Car:

CP180	ANR "Stainless Steel"	$61.20	$49.00
CP181	LIMA "Overland" (Red/Silver)	$61.20	$49.00

** All passenger cars are available separately. We also have the LIMA TAM sleeper in stock (309246 RRP $15.30 but from us only $12.50).

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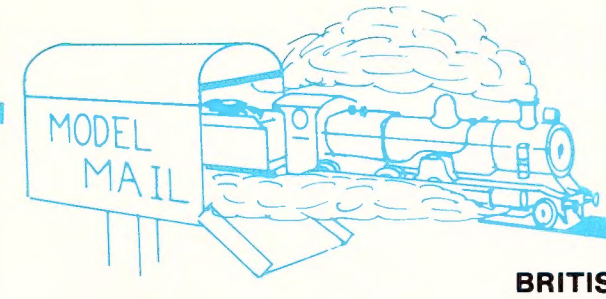

MODEL MAIL

BRITISH LOCOS

HORNBY LOCOS

For smoothness and power, for detail and paint quality, it's hard to go past Hornby. The following is a selection from our range, which includes just about all Hornby Locos actually available at the present time.

		RRP	Our Price
R320	LMS "Black 5" 4-6-0 (Black)	$107.95	$ 85.95
R372	LNER A4 "Seagull" (rare bird)	$122.50	$ 95.95
R380 SR	Schools "Stowe" 4-4-0 (green)	$136.75	$105.95
R390 GWR	"County of Oxford" 4-4-0	$135.95	$105.95

WRENN LOCOS

Mostly with heavy diecast bodies and lead weights, these locos are the "Heavy Haulers" from G.B. Customers will remember many models originally appearing under the "Hornby Dublo" banner. Here are some of our offering:

		RRP	Our Price
W2207	SR R1 Class 0-6-0T (green)	$ 59.95	$ 45.95
W2260	LMS "Royal Scot" (original)	$199.95	$159.95
W2269X	EX-SR Rebuilt "Battle"	$169.95	$135.95
W2275	EX-SR Original "Battle"	$199.95	$159.95

SUPER SPECIALS

HORNBY LOCO SPECIALS

We have secured stocks of the following Hornby Locos at a cost that enables us to offer them to you even cheaper than usual. Limited numbers only at these prices.

		RRP	Our Price
R257	EX-SR Schools 4-4-0 BR Black	$121.95	$ 89.95
R259	EX-LNER D49/1 4-4-0 BR Black	$121.95	$ 89.95
R324	EX-LMS "Lady Godiva" BR Black	$111.00	$ 79.95
R355	Midland Compound 4-4-0 No. 1000	$135.95	$ 99.95
R398	LNER A1 4-6-2 "Flying Scotsman"	$143.95	$105.95

COACH PACKS

This month, for the first time, we offer British Coach Packs — just add loco for a great looking passenger train. This list represents a small part of the range.

		RRP	Our Price
CP200	Wrenn Pullmans 2nd/1st/1st/Brk	$119.80	$ 93.95
CP201	Hornby GWR Clere Brk/3rd/ 3rd/Brk	$129.20	$101.95
CP202	Hornby Midlands Brk/3rd/3rd/Brk	$136.00	$105.95
CP240	Four Lima BR Crimson & Creams	$ 62.60	$ 49.95

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TRAIN PACKS

BREAKDOWN TRAIN

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TP200BRD **RRP:** $112.50 **Our Price:** $ 89.95

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TP240GWR **RRP:** $183.35 **Our Price:** $139.95

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TP252BRS **RRP:** $171.10 **Our Price:** $129.95

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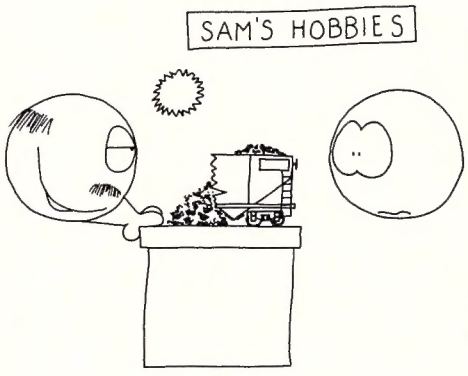

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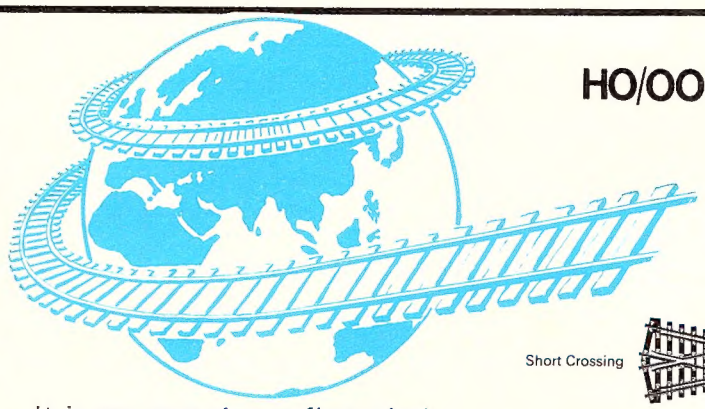

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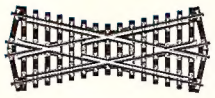
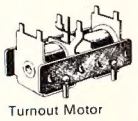

Short Crossing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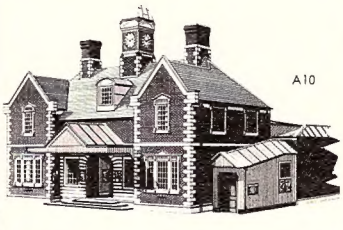
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B21

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